

5.8 Traffic, Circulation, and Access

The UCSP is intended to implement the objectives and policies of the GPU for the Urban Core Area, including those objectives and policies set forth in the Urban Core Circulation Element of the GPU. The EIR certified for the GPU included an analysis of potential impacts to transportation and traffic which specifically addressed potential impacts to roadways in the Urban Core Area. The analysis of the UCSP's potential impacts on traffic, circulation and access which follows is based on the analysis of the GPU's potential impacts on transportation and traffic in the Urban Core and the supporting technical analysis prepared by Kimley-Horn and Associates, which are contained in Section 5.10 and Appendix E of the Final EIR for the GPU (EIR #5-01/SCH #2004081066) and which are incorporated here by this reference pursuant to CEQA Guidelines section 15150. The Final EIR and appendices for the GPU are available for review at the City of Chula Vista Planning Department, 276 Fourth Avenue, Chula Vista, at the Chula Vista Public Library (Civic Center Branch), 365 F Street, Chula Vista, and on the City of Chula Vista's website at www.ci.chula-vista.ca.us.

Kimley-Horn and Associates, Inc. has prepared an analysis of transportation/traffic impacts (Appendix C), dated October 2005, resulting from buildout of the proposed project. The following discussion provides a summary of this analysis and presents other forms of mobility proposed in the UCSP. Please refer to Appendix C for more detailed technical information.

5.8.1 Existing Conditions

The traffic impact analysis (TIA) prepared by Kimley-Horn and Associates evaluated the potential traffic-related impacts associated with the adoption of the Chula Vista Urban Core Specific Plan. The study defines the appropriate geometric design of the urban arterials, as defined in the Chula Vista General Plan Update. In addition, this study recommends mitigation measures for any potential traffic impacts associated with the project and will serve as the traffic impact analysis for future redevelopment projects consistent with the Urban Core Specific Plan.

5.8.1.1 Regulatory Requirements

a. City of Chula Vista General Plan Update

Section 9.4 of the proposed Land Use and Transportation Element presents the following vision of the Urban Core:

The Urban Core Subarea has developed into a vibrant area, with housing, shops, restaurants, entertainment, and activities that attract from eastern

Chula Vista and city-wide. Higher density housing, shopping, and job centers located near existing and planned transit stations give people transportation choices, encourage the use of mass transit, and help to reduce vehicular traffic. A network of linked urban parks and plazas creates pleasant pedestrian routes and provides areas for community activities. Increased population (residents and workers) in the Urban Core Subarea has created opportunities for more shops and a variety of restaurants. Entertainment and cultural arts are housed in new and renovated buildings, offering both day and evening activities. The streets are bustling with shoppers and people enjoying outdoor dining or heading to entertainment venues.

A grade-separated trolley line at E and H Streets has improved the flow of east-west traffic, while a local shuttle provides frequent service between Urban Core Subarea activity centers. The Bus Rapid Transit (BRT) line allows residents in the East Planning Area convenient access to the Urban Core Subarea.

F Street is a pedestrian-oriented promenade that links Third Avenue, the Civic Center, Broadway, the E Street transit center, and the Bayfront Planning Area with themed landscaping and public art. The freeway crossings of Interstate 5 have been widened to accommodate additional pedestrian use, and entryways into the Urban Core Subarea are enhanced and inviting. Chula Vista's Urban Core Subarea has matured into an urban, pedestrian-oriented, active area that continues to be the primary economic, governmental, and social focal point of the south San Diego County region.

The proposed General Plan Update also includes four primary objectives addressing urban mobility, namely Objectives LUT 26, 47, 48, and 49. Objective LUT 47 states:

Establish roadway classifications in the Urban Core that respond to the special operating characteristics of roadways within a more urbanized environment, accommodate slower speeds in pedestrian-oriented areas, and facilitate multi-modal design elements and amenities.

Objective LUT 49 and select associated policies advance urban mobility. Objective LUT 49 states:

Encourage redevelopment, infill, and new development activities within the Northwest's Urban Core Subarea that would provide a balance of land uses, reinforce its identity as Chula Vista's central core, and complement land uses in other planning areas, including the Bayfront and East Planning Areas.

Objective LUT 49 also establishes design policies to assure that Urban Core development follows specific standards. These design policies include:

- LUT 49.15: Recognize that different portions of the Urban Core Subarea have a desirable character, and develop specific plans and programs to strengthen and reinforce their uniqueness. Develop land use, density, special design features, and building guidelines for appropriate Focus Areas.
- LUT 49.16: Prepare urban form guidelines and standards for development as part of the Urban Core Specific Plan.
- LUT 49.17: Establish policies, development standards and/or design guidelines in the Urban Core Specific Plan to address where high-rise buildings should be concentrated, how to establish and/or reinforce pedestrian-scaled development, and how site and building design should respond to public view corridors.
- LUT 49.18: With the adoption of the Urban Core Specific Plan, establish design standards for mixed-use development that achieves a high quality pedestrian-scaled environment and promotes side or rear located parking areas, streetfront windows and entries, and public and private open space.
- LUT 49.19: With the adoption of the Urban Core Specific Plan, create a pedestrian-oriented realm by requiring retail or public uses at the ground floor of buildings.
- LUT 49.20: Encourage the linkage and integration of new development with existing neighborhoods by means of open space areas, parks, and pathways as a means of enhancing pedestrian connections.
- LUT 49.21: Where a park, natural open space, or urban open space exists adjacent to or near a transit-oriented development, these features should be incorporated into the development as open space amenities.
- LUT 49.22: Require that the ground floor of parking structures located along primary street frontages in pedestrian-oriented districts be designed to promote pedestrian activity and, where appropriate, incorporate retail uses.
- LUT 49.24: Reinforce or encourage the establishment of a strong pedestrian orientation in designated districts, activity centers, and pedestrian-oriented Focus Areas, so that these areas may serve as a focus of

activity for the surrounding community and a focus for investment in the community.

Mobility policies that are tied to this urban development are addressed in Objective LUT 48. Objective LUT 48 states, “Increase mobility for residents and visitors in the Urban Core Subarea.” The policies to achieve this objective include:

- LUT 48.1: Create safe and convenient pedestrian access to, from, and within the Urban Core Subarea.
- LUT 48.2: Provide adequate sidewalk space on heavily traveled pedestrian corridors within the Urban Core Subarea.
- LUT 48.3: Provide mid-block pedestrian crossings and sidewalk curb extensions, where feasible, to shorten pedestrian walking distances.
- LUT 48.4: Locate secure bicycle parking facilities near transit centers and major public and private buildings.
- LUT 48.5: Encourage the establishment of a transit shuttle system that connects the Downtown Third Avenue District to the City’s Bayfront Planning Area. Connections with the Civic Center and transit stations on E and H Streets should be considered as priorities.
- LUT 48.6: Design and implement a system of landscaped pedestrian paths that link important features within Downtown, especially an F Street Promenade that will link the Bayfront Planning Area with Broadway and Downtown Third Avenue.

The General Plan Update indicates that in order to help promote pedestrian friendliness, these streets would provide, in varying amounts, the following generalized amenities:

- Way finding maps, grated planters, trash receptacles, and benches strategically located throughout the Urban Core Subarea. Streetscapes should be designed with inviting sidewalks that should be passable without having to maneuver around hedges or other obstacles.
- On-street parking, limited driveway cuts, and landscaping or planting strips, which create a buffer between traffic and pedestrians and provide canopy shade. A well-designed streetscape makes people feel comfortable and invites and motivates residents to walk or bike to destinations, such as shopping or work. Urban Core Subarea street design should include mid-block crosswalks and neighborhood passthroughs to future open space areas and common areas. This helps to create a human scale.

- Behind the sidewalk, easily accessible building entrances with minimum building setbacks, windows at street level, and no blank walls on adjacent buildings.
- Distinctive public transit amenities to increase ease of use and attractiveness of neighborhoods. Transit amenities should include next bus information kiosks, bicycle facilities and interconnections to other routes and bikeways, bike racks, lockers and shower facilities. The objective of this design is to reinforce bikes as a mode of transportation connected to and coordinated with other modes and bus lines, to connect people and places through a complete street network that invites walking and bicycling, thereby providing convenient public access.

Finally, Objective LUT 26 stresses the intent of the City to “Establish an Urban Core Improvements Program for the Urban Core Subarea.” Policies associated with this objective include:

- LUT 26.1: Through the Urban Core Specific Plan, determine an urban framework for streets and gateways, transit accommodation, a network of parks and urban plazas, pedestrian-oriented streets, pedestrian and bicycle linkages, and activity nodes.
- LUT 26.2: Establish an Urban Core Improvements Program that addresses the urban framework elements, implements Urban Mobility techniques and parking strategies, determines what is needed in various areas; and sets priorities for implementation.
- LUT 26.3: Develop methods to finance the Urban Core Improvements Program, including but not limited to Developer Impact Fees, tax increment financing (in redevelopment areas), and/or an incentives program.

As part of achieving improved mobility, the General Plan Update proposes to adopt a transit system that is compatible with the Regional Transit Vision (RTV) established by SANDAG. The RTV includes bus rapid transit (BRT) routes in the City of Chula Vista, as a priority in the MOBILITY 2030 Regional Transportation Plan (RTP). The San Diego Trolley Blue Line passes through the western part of the City of Chula Vista along the east side of I-5, with stations at Bayfront/E Street, H Street, and Palomar Street.

The Urban Core Circulation Element of the GPU, as shown in Figure 5.8-1, promotes the use of revised level of service standards for certain corridors and centers served by transit, alternative ways of measuring level of service for vehicles, and possibly establishing level of service criteria and performance measures for other modes of travel. The following steps were taken to develop the Urban Core Circulation Element in western Chula Vista:

1. **Identification of the following context-specific street classifications.** The following roadway classifications are proposed within the Urban Core and its immediate environs:

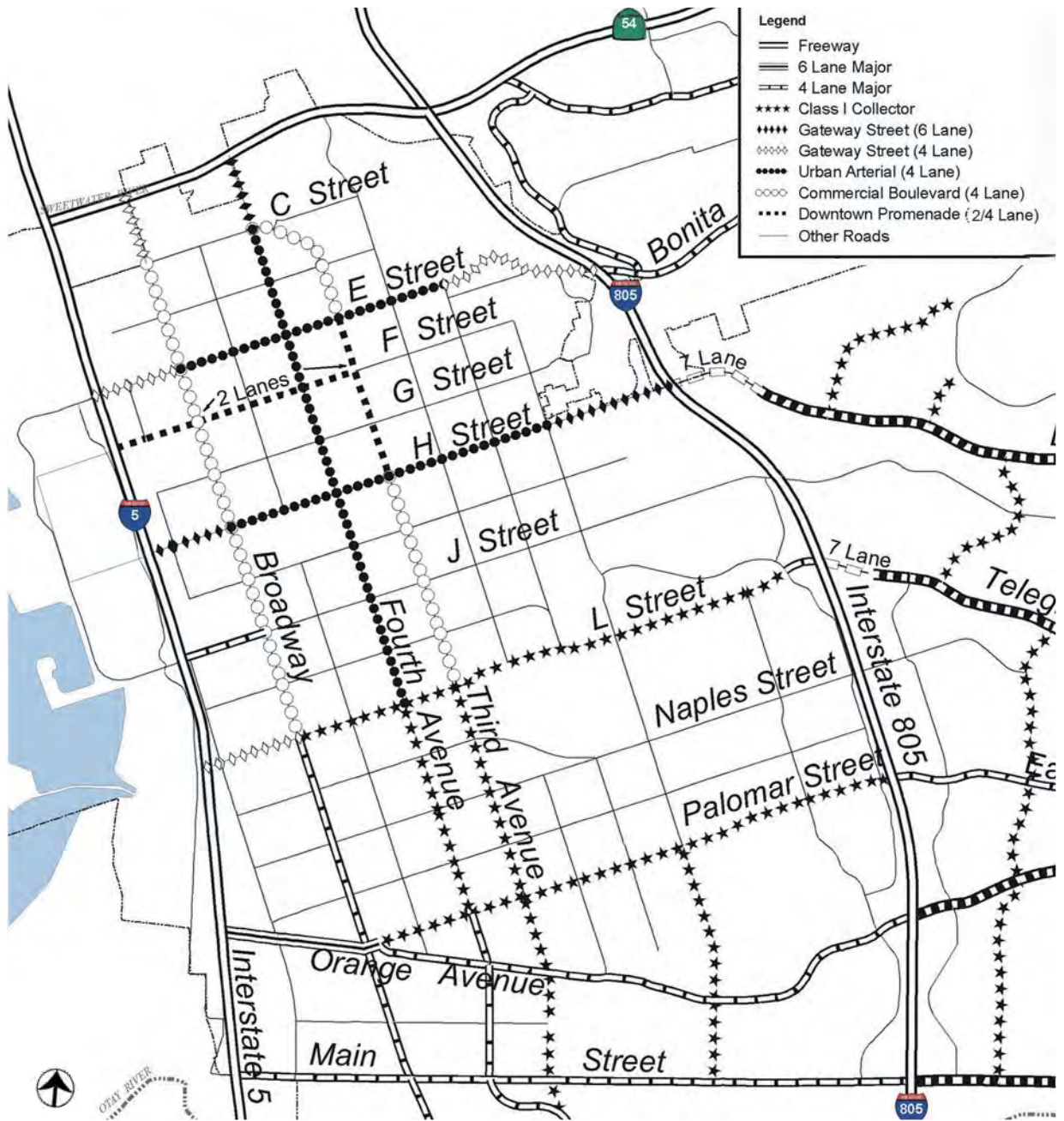


FIGURE 5.8-1
General Plan Update
Urban Core Circulation Element

- **Gateway Street:** these roadways (segments of Broadway, Fourth Avenue, E Street, H Street, J Street, and L Street) connect the Urban Core to SR-54, I-805, and I-5. These facilities are analogous to six- or four-lane major roads in other parts of the city, but would provide special design features and amenities to encourage access for the full spectrum of travel modes. These streets would be the major entry points to and from the Urban Core, and special landscape and entry treatments would be incorporated into the design. The acceptable capacity for a six-lane Gateway Street is 61,200 average daily traffic (ADT) and for a four-lane Gateway Street is 43,200 ADT.
 - **Urban Arterial:** these roads include portions of E Street, H Street, and Fourth Avenue. In terms of cross section, urban arterials are similar to four-lane major roads in other areas of Chula Vista, but with special features to support multi-modal trip-making, such as wider sidewalks, transit station curb “bulb outs,” and pedestrian amenities. The acceptable capacity for an Urban Arterial is 37,800 ADT.
 - **Commercial Boulevard:** these streets include segments of Broadway and Third Avenue (north of E Street and South of H Street) and would serve existing and future shopping districts. Design would be generally consistent with four-lane majors in other areas, but with special design features reflecting the multi-modal nature of streets in more urban areas. The acceptable capacity for a Commercial Boulevard is 33,750 ADT.
 - **Downtown Promenade:** these roads (including portions of F Street and Third Avenue) would provide access to retail establishments in the heart of the Urban Core. Street cross sections would be similar to a two-lane collector and four-lane collector, but with multi-modal features and amenities that accommodate the surrounding urban context. The acceptable capacity for a Downtown Promenade is 14,400.
- 2. Development of capacity standards for the Urban Core Circulation Element.** The capacities for the Urban Core Circulation Element were developed based on Highway Capacity Manual (HCM) procedures. The capacities were obtained from the *Generalized Planning Analysis*¹ method, which provides a method for estimating 24-hour street segment capacity using *Highway Capacity Manual* (HCM) 2000 procedures². Whereas ADT-based thresholds in the City of Chula Vista, and many other communities, have evolved over time, the Generalized Planning Analysis method provides a scientific method to relate peak hour HCM-calculated results to acceptable ADT volumes on certain classes of roads. The acceptable 24-hour volume is adjusted

¹ Florida Department of Transportation, Updated Jan. 7, 2003

² Chapter 15, Urban Streets

to account for design elements that move traffic efficiently. These include traffic signal spacing and timing. The results provided by the method were tailored to Urban Core streets to account for peak hour spreading. Because the Urban Core will become a destination rather than a waypoint, the 24-hour volume will be less concentrated in peak commuting hours.

- 3. Identification of appropriate performance standards for the Urban Core Circulation Element.** The Urban Core Circulation Element would accommodate all modes of travel (vehicular, transit, bicycling, and walking) and a variety of different trip types (shopping, entertainment, dining, as well as commuting). As discussed above, the existing capacities and performance standards used for streets throughout the City of Chula Vista emphasize vehicular commuting trips, and have the unintended effect of limiting the potential for a more urbanized downtown environment. Accordingly, within the Urban Core and its immediate environs (where the Urban Core Circulation Element is located), the minimum performance standard on the Urban Core Circulation Element is LOS D.

The acceptable capacities for these roadways assume implementation of traffic and multi-modal improvements to accommodate all modes of travel (vehicular, transit, bicycling, and walking) and a variety of different trip types (shopping, entertainment, dining, as well as commuting).

5.8.1.2 Existing Circulation System

a. Intersections and Street Segments

The site area encompasses downtown Chula Vista. Regional access to the UCSP area is provided by I-5. Figure 5.8-2 shows the existing roadways and intersections in the UCSP area. Brief descriptions of the existing major streets in the UCSP area are provided below.

I-5 is a north-south freeway that originates at the Mexican border and terminates at the California-Oregon border. Local interchanges in the project vicinity are at E Street, H Street, and J Street. I-5 is generally an eight-lane freeway between L Street and C Street with auxiliary lanes present between some interchanges.

E Street is an east-west roadway which is classified as a four-lane gateway street between I-5 and I-805. The segment between Broadway Avenue and First Avenue is classified as a four-lane urban arterial. Parallel parking is provided on both sides of the street between Third Avenue and Broadway and sidewalks are provided on both sides of the roadway from Third Avenue to I-5. The posted speed limit is 30 miles per hour (mph).

F Street is an east-west roadway, classified as a four-lane, downtown promenade between I-5 and Broadway and a two-lane downtown promenade between Broadway and Third

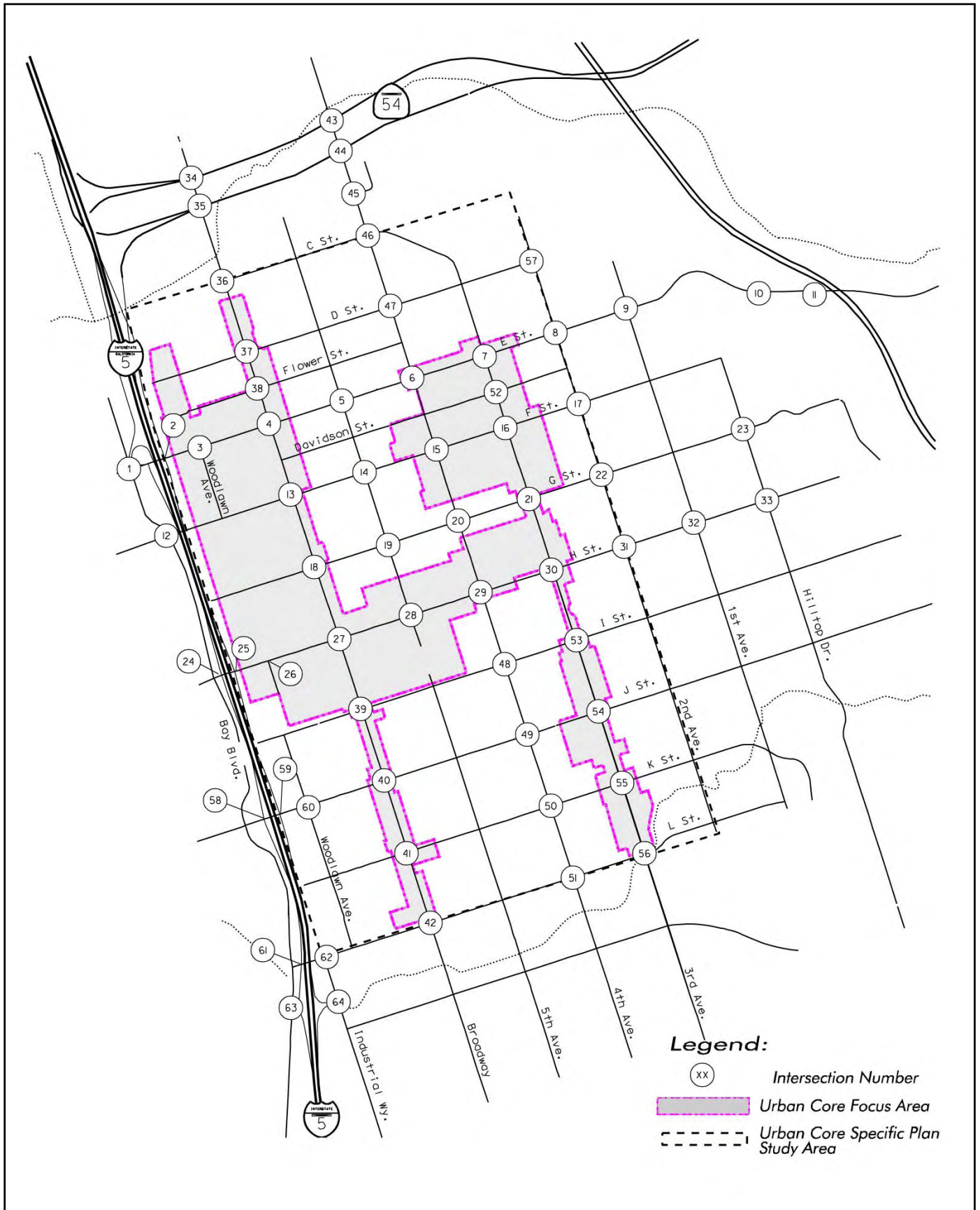


FIGURE 5.8-2
Existing Roadways and Intersections

Avenue. F Street is four lanes between Third Avenue and Fourth Avenue, two lanes between Fourth Avenue and Broadway, and four lanes between Broadway and I-5. Sidewalks are provided on both sides of the roadway. On-street parking is not provided between Third Avenue and Fourth Avenue; however, parallel parking is available on both sides of the street from Fourth Avenue to I-5. The posted speed limit is 30 mph.

H Street is an east-west roadway with a center two-way left turn lane. It is classified as a six-lane gateway street between I-5 and Broadway; however, it is not built to its ultimate classification and functions as a four-lane roadway. Between Broadway and Hilltop Drive, H Street is classified as a four-lane urban arterial. Parking is not provided on-street. Sidewalks are provided on both sides of the street. The posted speed limit is 35 mph.

Broadway is a north-south roadway. Between SR-54 and C Street, it is classified as a four-lane gateway street and between C Street and L Street it is classified as a four-lane commercial boulevard. Parallel parking and sidewalks are provided on both sides of the roadway. There is a two-way left-turn lane between F Street and H Street. The posted speed limit is 35 mph.

Third Avenue is a north-south roadway. Third Avenue is a four-lane commercial boulevard between C Street and E Street and between H Street and L Street and a two/four-lane downtown promenade between E Street and H Street. Third Avenue is two lanes between E Street and F Street and a four-lane roadway with a raised median between F Street and Madrona Street. Angled parking is provided along these two sections. Between G Street and H Street, Third Avenue is a four-lane roadway with a center two-way left-turn lane and parallel parking is provided. Sidewalks are provided on both sides of the street in all three sections. The posted speed limit is 35 mph.

b. Freeways

Each of the freeway segments serving the Urban Core Area were considered in the GPU traffic analysis. These freeways include I-5, I-805, and State Route 54.

5.8.1.3 Existing Operations

a. Intersection Operations

A total of 64 intersections within the study area were evaluated for traffic impacts. These intersections are shown in Figure 5.8-2. Table 5.8-1 summarizes the existing AM and PM peak hour signalized intersection operations by intersection. All study intersections currently operate at LOS D or better during both peak periods, except the following intersections:

TABLE 5.8-1
EXISTING CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE SUMMARY

	Intersection	Peak Hour	Existing Delay*	LOS†
1	Bay Blvd-I-5 SB Ramp @ E Street	AM	10.1	B
		PM	16.6	B
2	I-5 NB Ramp @ E Street	AM	33.2	C
		PM	18.2	B
3	Woodlawn Avenue @ E Street	AM	21.7	C
		PM	15.5	B
4	Broadway @ E Street	AM	16.9	B
		PM	26.3	C
5	Fifth Avenue @ E Street	AM	5.0	A
		PM	6.4	A
6	Fourth Avenue @ E Street	AM	13.5	B
		PM	18.8	B
7	Third Avenue @ E Street	AM	11.9	B
		PM	15.2	B
8	Second Avenue @ E Street	AM	7.3	A
		PM	11.0	B
9	First Avenue @ E Street	AM	6.8	A
		PM	5.5	A
10	Flower Street @ E Street	AM	10.6	B
		PM	12.5	B
11	Bonita Glen Drive @ Bonita Road	AM	12.1	B
		PM	16.5	B
12	Bay Blvd. @ F Street	AM	8.8	A
		PM	14.7	B
13	Broadway @ F Street	AM	16.5	B
		PM	24.1	C
14	Fifth Avenue @ F Street	AM	5.7	A
		PM	8.2	A
15	Fourth Avenue @ F Street	AM	13.5	B
		PM	17.7	B
16	Third Avenue @ F Street	AM	13.9	B
		PM	19.2	B
17	Second Avenue @ F Street	AM	9.7	A
		PM	12.5	B
18	Broadway @ G Street	AM	12.3	B
		PM	14.9	B
19	Fifth Avenue @ G Street	AM	6.3	A
		PM	7.5	A
20	Fourth Avenue @ G Street	AM	8.9	A
		PM	10.3	B
21	Third Avenue @ G Street	AM	8.6	A
		PM	9.2	A
22	Second Avenue @ G Street	AM	14.1	B
		PM	16.3	C
23	Hilltop Drive @ G Street	AM	16.7	C
		PM	14.4	B
24	I-5 SB Ramp @ H Street	AM	28.8	C
		PM	21.1	C

TABLE 5.8-1
EXISTING CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE SUMMARY
(continued)

	Intersection	Peak Hour	Existing Delay*	LOS†
25	I-5 NB Ramp @ H Street	AM	12.7	B
		PM	14.8	B
26	Woodlawn Avenue @ H Street	AM	38.0	D
		PM	22.3	C
27	Broadway @ H Street	AM	25.7	C
		PM	27.1	C
28	Fifth Avenue @ H Street	AM	10.8	B
		PM	11.3	B
29	Fourth Avenue @ H Street	AM	22.1	C
		PM	29.2	C
30	Third Avenue @ H Street	AM	19.3	B
		PM	23.8	C
31	Second Avenue @ H Street	AM	8.4	A
		PM	11.5	B
32	First Avenue @ H Street	AM	7.6	A
		PM	8.2	A
33	Hilltop Drive @ H Street	AM	32.2	C
		PM	41.3	D
34	Broadway @ SR-54 WB Ramp	AM	82.9	F
		PM	11.8	B
35	Broadway @ SR-54 EB Ramp	AM	3.3	A
		PM	6.3	A
36	Broadway @ C Street	AM	18.1	B
		PM	15.1	B
37	Broadway @ D Street	AM	9.2	A
		PM	10.2	B
38	Broadway @ Flower Street	AM	11.5	B
		PM	14.0	B
39	Broadway @ I Street	AM	16.3	B
		PM	17.3	B
40	Broadway @ J Street	AM	13.6	B
		PM	18.6	B
41	Broadway @ K Street	AM	11.7	B
		PM	13.2	B
42	Broadway @ L Street	AM	15.5	B
		PM	20.4	C
43	Fourth Avenue @ SR-54 WB Ramp	AM	14.7	B
		PM	25.9	C
44	Fourth Avenue @ SR-54 EB Ramp	AM	13.4	B
		PM	27.2	C
45	Fourth Avenue @ Brisbane Street	AM	21.5	C
		PM	27.3	C
46	Fourth Avenue @ C Street	AM	23.2	C
		PM	31.4	C
47	Fourth Avenue @ D Street	AM	9.1	A
		PM	10.5	B
48	Fourth Avenue @ I Street	AM	8.8	A
		PM	10.1	B

**TABLE 5.8-1
EXISTING CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE SUMMARY
(continued)**

	Intersection	Peak Hour	Existing Delay*	LOS†
49	Fourth Avenue @ J Street	AM	9.3	A
		PM	15.7	B
50	Fourth Avenue @ K Street	AM	8.5	A
		PM	10.1	B
51	Fourth Avenue @ L Street	AM	24.6	C
		PM	26.6	C
52	Third Avenue @ Davidson Street	AM	9.9	A
		PM	13.2	B
53	Third Avenue @ I Street	AM	10.1	B
		PM	12.2	B
54	Third Avenue @ J Street	AM	18.8	B
		PM	35.9	D
55	Third Avenue @ K Street	AM	9.5	A
		PM	11.0	B
56	Third Avenue @ L Street	AM	18.1	B
		PM	27.0	C
57	Second Avenue @ D Street	AM	14.9	B
		PM	14.9	B
58	J Street @ I-5 SB Ramp	AM	8.9	A
		PM	15.1	B
59	J Street @ I-5 NB Ramp	AM	10.6	B
		PM	8.2	A
60	Woodlawn Avenue @ J Street	AM	11.0	B
		PM	11.9	B
61	L Street @ Bay Blvd	AM	16.8	C
		PM	120.3	F
62	L Street @ Industrial Blvd	AM	18.9	B
		PM	25.4	C
63	Bay Blvd. @ I-5 SB Ramp	AM	22.2	C
		PM	48.6	E
64	Industrial Blvd. @ I-5 NB Ramp	AM	15.4	C
		PM	17.7	C

NOTES:

Bold values indicate intersections operating at LOS E or F.

*Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.

At a two-way stop-controlled intersection, delay refers to the worst movement.

†LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0.

- #34: Broadway at SR-54 westbound ramp (LOS F – AM Peak)
- #61: L Street at Bay Boulevard (LOS F – PM Peak)
- #63: Bay Boulevard at I-5 southbound ramp (LOS E – PM Peak)

b. Street Segment Operations

Table 5.8-2 summarizes the street segment operations under existing conditions. As seen in this table, all Urban Core roadways are calculated to operate at LOS D or better under existing conditions. Existing geometrics of these street segments are described in Figure 5.8-3.

c. Transit Services

The Urban Core of Chula Vista is currently served by 11 Chula Vista Transit (CVT) routes (Routes 701, 702, 703, 704, 705, 706, 707, 708, 709, 711, and 712), two Metropolitan Transit System (MTS) routes (Routes 929 and 932), and the San Diego Trolley's Blue Line. Several CVT transit routes circulate within the Urban Core and Bayfront area; others serve the greater Chula Vista area and provide connections to National City Transit and other transit providers. MTS route 929 runs along Third and Fourth Avenues through the Urban Core and MTS route 932 runs along Broadway. The San Diego Trolley's Blue Line provides service between Qualcomm Stadium and San Ysidro/Tijuana. It extends through the Urban Core parallel to and on the east side of I-5, with stations at Bayfront/E Street and H Street. Service is provided seven days a week with service starting around 5:00 A.M. and ending around 12:00 midnight. During the peak periods, service is provided with 7.5-minute headways and 15 minutes during the off-peak periods. The current transit routes are outlined in Figure 5.8-4.

d. Parking

Existing parking within the UCSP area is primarily provided on-site for individual land uses. For example, commercial and office uses along H Street and Broadway meet their parking demand on-site, and existing residential uses are required to provide on-site parking. In addition, many of the major and neighborhood streets with the Urban Core have on street parking available to the general public.

In addition to on-site parking, a parking district has been established along Third Avenue and abutting streets within the Village District. The parking district through a metered system includes public parking both on Third Avenue, and a series of small to large public parking lots. Within the Village parking district approximately 509 metered spaces are on street and 1,205 spaces are provided in 11 different public parking lot locations. The parking district establishes parking supply for existing and new (permitted) commercial uses in the Village commercial corridor and provides a mechanism for new conditionally permitted commercial uses to pay an in-lieu fee instead of providing new on-site parking spaces,

TABLE 5.8-2
EXISTING CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Street/Segment	Street Classification*	Daily Traffic Volume	Acceptable Volume	Volume To Capacity (v/c)	Daily Segment LOS
E Street					
I-5 - Woodlawn Avenue	4 Lanes Gateway Street	26,924	43,200	0.56†	A
Woodlawn Avenue - Broadway	4 Lanes Gateway Street	21,997	43,200	0.46†	A
Broadway - 1st Avenue	4 Lanes Urban Arterial	17,493	37,800	0.42†	A
1st Avenue - I-805	4 Lanes Gateway Street	17,966	43,200	0.37†	A
F Street					
Bay Boulevard - Woodlawn Avenue	4 Lanes Downtown Promenade	5,336	33,750	0.14†	A
Woodlawn Avenue - Broadway	4 Lanes Downtown Promenade	9,263	33,750	0.25†	A
Broadway – Fourth Avenue	2 Lanes Downtown Promenade	8,574	14,400	0.54†	A
Fourth Avenue – Third Avenue	4 Lanes Downtown Promenade	11,395	33,750	0.30†	A
H Street					
I-5 – Broadway	4 Lanes Gateway Street	33,116	43,200	0.69†	B
Broadway – Third Avenue	4 Lanes Urban Arterial	24,637	37,800	0.59†	A
Third Avenue - Hilltop Drive	4 Lanes Urban Arterial	27,474	37,800	0.65†	A
Hilltop Drive - I-805	4 Lanes Gateway Street‡	40,184	43,200	0.84†	D
J Street					
Bay Boulevard - Broadway	4 Lanes Major Street	19,024	40,000	0.51†	A
L Street					
I-5 - Broadway	4 Lanes Gateway Street‡	15,450	43,200	0.32†	A
Broadway - Hilltop Drive	4 Lanes Class I Collector	16,430	22,000	0.60†	A
Woodlawn Avenue					
E Street - F Street	2 Lanes Downtown Promenade	4,900	14,400	0.31†	A
G Street - H Street	2 Lanes Downtown Promenade	2,600	14,400	0.16†	A
Broadway					
SR-54 - C Street	4 Lanes Gateway Street	22,107	43,200	0.46†	A
C Street - E Street	4 Lanes Commercial Boulevard	20,015	33,750	0.53†	A
E Street - H Street	4 Lanes Commercial Boulevard	23,208	33,750	0.62†	B
H Street - K Street	4 Lanes Commercial Boulevard	25,713	33,750	0.69†	B
K Street - L Street	4 Lanes Commercial Boulevard	26,599	33,750	0.71†	C
South of L Street	4 Lanes Major Street	27,053	40,000	0.72	C

TABLE 5.8-2
EXISTING CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY
(continued)

Street/Segment	Street Classification*	Daily Traffic Volume	Acceptable Volume	Volume To Capacity (v/c)	Daily Segment LOS
Fourth Avenue					
SR-54 - C Street	4 Lanes Gateway Street‡	36,923	43,200	0.77†	C
C Street - E Street	4 Lanes Urban Arterial	17,812	37,800	0.42†	A
E Street - H Street	4 Lanes Urban Arterial	17,001	37,800	0.40†	A
H Street - L Street	4 Lanes Urban Arterial	16,101	37,800	0.38†	A
Third Avenue					
C Street - E Street	4 Lanes Commercial Boulevard	7,220	33,750	0.19†	A
E Street - G Street	2/4 Lanes Downtown Promenade	14,413	14,400/33,750	0.3†	A
G Street - H Street	4 Lanes Downtown Promenade	18,071	33,750	0.48†	A
H Street - L Street	4 Lanes Commercial Boulevard	23,459	33,750	0.63†	B
South of L Street	4 Lanes Class I Collector	21,814	22,000	0.79	C

*Street classification is based on the standards provided in the 2005 Chula Vista General Plan, but will be analyzed with existing number of lanes for each respective roadway segment.

†This roadway segment is part of the Urban Core Circulation Element.

‡This roadway segment is classified as a six-lane roadway, but is assumed to function as a four-lane roadway for this scenario.

Street Segment	Total Travel Lanes	Median/Turn Lane	Curb-to-Curb Width	Parking	Bike Lane
E St between I-5 and Woodlawn Ave	4	Two-Way Left Turn Lane	70'	N	N
E St between Woodlawn Ave and Broadway	4	Two-Way Left Turn Lane	70'	N	N
E St between Broadway and 1 st Ave	4	N	62'	Y	N
E St between 1 st Ave and I-805	4	Two-Way Left Turn Lane	71'	N	Y
F St between I-5 and Woodlawn Ave	4	N	66'	Y	N
F St between Woodlawn Ave and Broadway	4	N	66'	Y	N
F St between Broadway and 4 th Ave	2	N	40'	Y	N
F St between 4 th Ave and 3 rd Ave	4	Raised Median	65'	N	N
H St between I-5 and Broadway	4	Two-Way Left Turn Lane	64'	N	N
H St between Broadway and 3 rd Ave	4	Two-Way Left Turn Lane	64'	N	N
H St between 3 rd Ave and Hilltop Dr	4	Two-Way Left Turn Lane	64'	N	Y
H St between Hilltop Dr and I-805	4	N	65'	N	N
J St between Bay Blvd and Broadway	4	Raised Median	67'	N	N
L St between I-5 and Broadway	4	Two-Way Left Turn Lane	63'	N	N
L St between Broadway and Hilltop Dr	4	N	64'	Y	N
Woodlawn Ave between E St and F St	2	N	36'	Y	N
Woodlawn Ave between G St and H St	2	N	33'	Y	N
Broadway between SR-54 and C St	4	N	68'	N	N
Broadway between C St and E St	4	Two-Way Left Turn Lane	70'	Y	N
Broadway between E St and F St	4	N	68'	Y	N
Broadway between F St and H St	4	Two-Way Left Turn Lane	82'	Y	N
Broadway between H St and K St	4	Two-Way Left Turn Lane	80'	Y	N
Broadway between K St and L St	4	Two-Way Left Turn Lane	80'	Y	N
Broadway south of L St	4	Raised Median	82'	Y	N
4 th Ave between SR-54 and C St	4	Raised Median Extended NB/SB RT Lanes	90'	N	N
4 th Ave between C St and E St	4	N	64'	Y	N
4 th Ave between E St and H St	4	Two-Way Left Turn Lane	64'	N	N
4 th Ave between H St and L St	4	N	63'	Y	N
3 rd Ave between C St and E St	4	N	64'	Y	N
3 rd Ave between E St and F St	2	N	62'	Y	N
3 rd Ave between F St and Madrona St	4	Raised Median	101'	Y	N
3 rd Ave between Madrona St and G St	4	N	72'	Y	N
3 rd Ave between G St and H St	4	Two-Way Left Turn Lane	66'	Y	N
3 rd Ave between H St and L St	4	Two-Way Left Turn Lane	63'	N	N
3 rd Ave south of L St	4	Two-Way Left Turn Lane	61'	N	N

FIGURE 5.8-3
Existing Roadway Geometrics

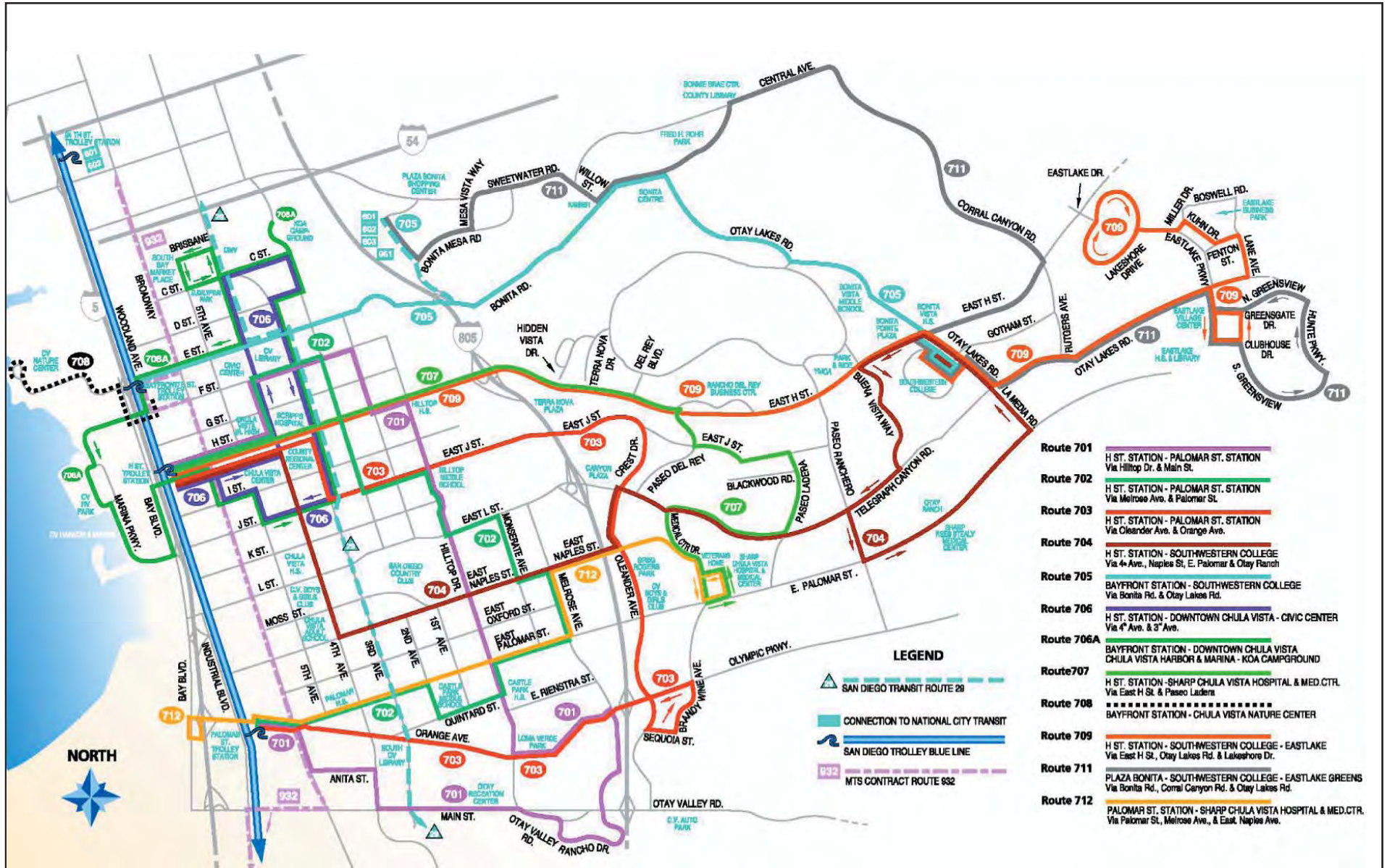


FIGURE 5.8-4
Existing Transit Routes

which is often infeasible given the developed condition of the commercial corridor. The district also provides a comprehensive maintenance program of existing parking lots.

e. Freeways

Freeways I-5 and I-805 and State Route 54 were considered in the GPU traffic analysis. Existing LOS of the freeway segments connecting with the Urban Core Area range from LOS C to LOS F. However, since the freeway system is developed and managed by Caltrans, the City has only limited ability to affect the level of congestion on these roadways. As such, only interchanges with these freeway segments were considered in the UCSP traffic study.

5.8.2 Criteria for Determination of Significance

The significance criteria to evaluate the project impacts to intersections are based on the City of Chula Vista's Guidelines for Traffic Impact Studies in the City of Chula Vista, February 13, 2001 and on the City of Chula Vista's adopted General Plan. At intersections, the measurement of effectiveness (MOE) is based on allowable increases in delay. At roadway segments, the MOE is based on allowable increases in the ADT.

a. Intersections

Within the Urban Core of the city of Chula Vista, the goal is to achieve LOS D or better at all signalized and unsignalized intersections.

1. A project-specific impact would occur if the operations at intersections are at LOS E or F and the project trips comprise five percent or more of the entering volume.
2. A cumulative impact would occur if the operations at intersections are at LOS E or F only.

b. Roadway Segments

The impact criteria for Urban Core Circulation Element roadways (Gateway Street, Urban Arterial, Commercial Boulevard, Downtown Promenade) are as follows:

1. A roadway segment that currently operates at LOS D or better and with the proposed changes would operate at LOS E or F at General Plan buildout is considered a significant impact.
2. A roadway segment that currently operates at LOS E would operate at LOS F at General Plan buildout, or which operates at LOS E or F and would worsen by 5 percent or more at General Plan buildout is considered a significant impact.

5.8.3 Impacts

5.8.3.1 Automotive

Year 2030 traffic volumes at study intersections were calculated by applying growth factors to existing traffic volumes. These growth factors were determined by comparing the Year 2030 ADT by the existing ADT for each respective roadway segment. This growth in traffic varied between a minimum of 10 percent to a more than doubling of traffic on some intersection approaches. In cases where extreme traffic growth was projected, adjustments were made to account for spreading of the peak hour. This spreading presumes that the peak hour may last for more than one hour in the morning or afternoon peak hour.

The traffic associated with the Urban Core has been included in the traffic volumes used for the GPU. The traffic forecasts from the GPU were used for the UCSP transportation analysis because the trip generation for the Urban Core is generally consistent with the GPU land uses associated with projected traffic volumes and distribution patterns. Table 5.8-3 summarizes the trip generation for the UCSP based on land uses identified in the GPU. Approximately 331,100 ADT is expected with the full buildout of the UCSP. This would be an increase of 141,100 ADT over existing conditions. The largest percentage increase in ADT would occur from the residential land use, with an increase of approximately 100 percent.

**TABLE 5.8-3
TRIP GENERATION SUMMARY**

Land Use	Existing ADT	Net ADT Increase	Total ADT
Residential	22,200	42,600	64,800
Retail	120,000	40,000	160,000
Office	48,000	26,000	74,000
Visitor Serving Commercial	--	32,500	32,500
TOTAL	190,200	141,100	331,100

NOTE: Trip generation values shown above were based on rates referenced in the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, SANDAG, April 2002. (6 trips/du for residential, 40 trips/1,000 sf for retail, 20 trips/1,000 square feet for office, and 50 percent hotel/50 percent retail for visitor serving commercial)

The UCSP implements the policies and objectives of the GPU to direct a portion of the growth expected to occur in the City over the next 20 years to the UCSP Area, by providing zone changes, development regulations and design guidelines to accommodate future growth. Although these regulatory provisions are intended to attract future development to the Subdistricts Area, the timing, location and extent of subsequent development projects are unknown as this time.

The anticipated build-out under the UCSP is expected to occur on an incremental basis through year 2030. Most roadway segments and intersections in the UCSP area currently operate at acceptable levels. Near term traffic impacts which would result from the

incremental development of individual projects during intermediate years will be addressed by application of the City's existing Traffic Monitoring Program (TMP) and by requiring the preparation of traffic assessments for individual development projects at the time they are proposed. Under this approach, the City has established a 20- to 25-year phased plan for implementing traffic improvements, which has been divided into three tiers that will be based on need and enhancement to the function of the overall street network. The City's existing TMP annually monitors the actual performance of the street system by conducting roadway segment travel time studies in accordance with the City's Growth Management Program and Traffic Threshold Standards. Annual growth that occurs under the UCSP will be reflected in the monitoring results. Results from the City's TMP will be used to provide analysis of roadway segment performance under near-term conditions (0-4 years). The TMP is the City's most reliable tool for tracking roadway volumes and intersection performance. Although it is limited to a four-year horizon, the TMP is conducted annually and the results will be continually updated and serve as the basis of an on-going traffic performance tracking system throughout the implementation of the UCSP. The results of the short term monitoring will be incorporated in the UCSP "Five Year Progress Report", and may form the basis for adjusting the priorities of the phased intersection and roadway improvements as further described below.

The timing, location, and extent of specific development projects which may occur during the UCSP's anticipated build-out period is unpredictable and speculative at this time. Accordingly, the following analysis of the UCSP's potential impacts on traffic and circulation addresses the "worst case" cumulative scenario that would be presented in Year 2030 by full buildout under the UCSP. Figure 5.8-5 summarizes the Year 2030 conditions ADT volumes. Table 5.8-4 summarizes the peak hour intersection operations and Table 5.8-5 summarizes the segment operations evaluated.

a. Peak Hour Intersections

Table 5.8-4 summarizes the peak hour intersection operations. As seen in the table, all study area intersections are calculated to operate at LOS D or better for the 2030 condition except for the following intersections, which are calculated to operate at LOS E or F:

- #1: Bay Boulevard/I-5 SB ramp at E Street (LOS E – AM Peak, LOS F – PM Peak);
- #2: I-5 NB Ramp at E Street (LOS E – AM and PM Peak);
- #13: Broadway at F Street (LOS E – PM Peak);
- #24: I-5 SB Ramp at H Street (LOS F – PM Peak);
- #25: I-5 NB Ramp at H Street (LOS F – PM Peak);
- #26: Woodlawn Avenue at H Street (LOS F – PM Peak);
- #27: Broadway at H Street (LOS F – PM Peak);
- #28: Fifth Avenue at H Street (LOS E – PM Peak);
- #29: Fourth Avenue at H Street (LOS E – PM Peak);
- #33: Hilltop Drive at H Street (LOS E – AM and PM Peak);
- #34: Broadway at SR-54 WB Ramp (LOS F – AM Peak);
- #44: Fourth Avenue at SR-54 EB Ramp (LOS F – PM Peak);

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TABLE 5.8-4
YEAR 2030 CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE SUMMARY

	Intersection	Peak Hour	Existing Delay*	LOS†	Year 2030 Delay*	LOS†	Increase in Delay	Significant Impact?
1	Bay Blvd-I-5 SB Ramp @ E Street	AM	10.1	B	58.4	E	48.3	YES
		PM	16.6	B	302.9	F	286.3	YES
2	I-5 NB Ramp @ E Street	AM	33.2	C	60.5	E	27.3	YES
		PM	18.2	B	31.9	C	13.7	NO
3	Woodlawn Avenue @ E Street	AM	21.7	C	25.8	C	4.1	NO
		PM	15.5	B	20.5	C	5.0	NO
4	Broadway @ E Street	AM	16.9	B	30.3	C	13.4	NO
		PM	26.3	C	47.2	D	20.9	NO
5	Fifth Avenue @ E Street	AM	5.0	A	5.6	A	0.6	NO
		PM	6.4	A	7.7	A	1.3	NO
6	Fourth Avenue @ E Street	AM	13.5	B	16.2	B	2.7	NO
		PM	18.8	B	33.3	C	14.5	NO
7	Third Avenue @ E Street	AM	11.9	B	12.9	B	1.0	NO
		PM	15.2	B	24.8	C	9.6	NO
8	Second Avenue @ E Street	AM	7.3	A	15.5	B	8.2	NO
		PM	11.0	B	28.9	C	17.9	NO
9	First Avenue @ E Street	AM	6.8	A	40.6	D	33.8	NO
		PM	5.5	A	10.1	B	4.6	NO
10	Flower Street @ E Street	AM	10.6	B	20.2	C	9.6	NO
		PM	12.5	B	37.1	D	24.6	NO
11	Bonita Glen Dr @ E Street	AM	12.1	B	12.5	B	0.4	NO
		PM	16.5	B	23.0	C	6.5	NO
12	Bay Blvd @ F Street	AM	8.8	A	9.8	A	1.0	NO
		PM	14.7	B	21.4	C	6.7	NO
13	Broadway @ F Street	AM	16.5	B	17.7	B	1.2	NO
		PM	24.1	C	66.1	E	42.0	YES
14	Fifth Avenue @ F Street	AM	5.7	A	6.6	A	0.9	NO
		PM	8.2	A	10.0	A	1.8	NO
15	Fourth Avenue @ F Street	AM	13.5	B	15.3	B	1.8	NO
		PM	17.7	B	23.7	C	6.0	NO
16	Third Avenue @ F Street	AM	13.9	B	15.9	B	2.0	NO
		PM	19.2	B	23.5	C	4.3	NO
17	Second Avenue @ F Street	AM	9.7	A	13.4	B	3.7	NO
		PM	12.5	B	12.7	B	0.2	NO

TABLE 5.8-4
YEAR 2030 CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE SUMMARY
(continued)

	Intersection	Peak Hour	Existing Delay*	LOS†	Year 2030 Delay*	LOS†	Increase in Delay	Significant Impact?
18	Broadway @ G Street	AM	12.3	B	14.0	B	1.7	NO
		PM	14.9	B	21.0	C	6.1	NO
19	Fifth Avenue @ G Street	AM	6.3	A	7.7	A	1.4	NO
		PM	7.5	A	8.3	A	0.8	NO
20	Fourth Avenue @ G Street	AM	8.9	A	12.8	B	3.9	NO
		PM	10.3	B	18.0	B	7.7	NO
21	Third Avenue @ G Street	AM	8.6	A	11.8	B	3.2	NO
		PM	9.2	A	10.5	B	1.3	NO
22	Second Avenue @ G Street	AM	14.1	B	22.2	C	8.1	NO
		PM	16.3	C	32.3	D	16.0	NO
23	Hilltop Dr @ G Street	AM	16.7	C	33.7	D	17.0	NO
		PM	14.4	B	24.1	C	9.7	NO
24	I-5 SB Ramp @ H Street	AM	28.8	C	36.7	D	7.9	NO
		PM	21.1	C	84.5	F	63.4	YES
25	I-5 NB Ramp @ H Street	AM	12.7	B	47.6	D	34.9	NO
		PM	14.8	B	138.4	F	123.6	YES
26	Woodlawn Avenue @ H Street	AM	38.0	D	33.7	C	-4.3	NO
		PM	22.3	F	260.6	F	238.3	YES
27	Broadway @ H Street	AM	25.7	C	42.7	D	17.0	NO
		PM	27.1	C	118.1	F	91.0	YES
28	Fifth Avenue @ H Street	AM	10.8	B	15.2	B	4.4	NO
		PM	11.3	B	61.6	E	50.3	YES
29	Fourth Avenue @ H Street	AM	22.1	C	38.6	D	16.5	NO
		PM	29.2	C	59.4	E	30.2	YES
30	Third Avenue @ H Street	AM	19.3	B	23.0	C	3.7	NO
		PM	23.8	C	39.7	D	15.9	NO
31	Second Avenue @ H Street	AM	8.4	A	13.7	B	5.3	NO
		PM	11.5	B	31.4	C	19.9	NO
32	1st Avenue @ H Street	AM	7.6	A	9.8	A	2.2	NO
		PM	8.2	A	12.5	B	4.3	NO
33	Hilltop Dr @ H Street	AM	32.2	C	58.3	E	26.1	YES
		PM	41.3	D	74.2	E	32.9	YES
34	Broadway @ SR-54 WB Ramp	AM	82.9	F	190.6	F	107.7	YES
		PM	11.8	B	16.2	B	4.4	NO
35	Broadway @ SR-54 EB Ramp	AM	3.3	A	10.1	B	6.8	NO

TABLE 5.8-4
YEAR 2030 CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE SUMMARY
(continued)

Intersection		Peak Hour	Existing Delay*	LOS†	Year 2030 Delay*	LOS†	Increase in Delay	Significant Impact?
		PM	6.3	A	17.7	B	11.4	NO
36	Broadway @ C Street	AM	18.1	B	20.1	C	2.0	NO
		PM	15.1	B	18.1	B	3.0	NO
37	Broadway @ D Street	AM	9.2	A	12.1	B	2.9	NO
		PM	10.2	B	14.9	B	4.7	NO
38	Broadway @ Flower Street	AM	11.5	B	12.3	B	0.8	NO
		PM	14.0	B	17.4	B	3.4	NO
39	Broadway @ I Street	AM	16.3	B	16.4	B	0.1	NO
		PM	17.3	B	21.1	C	3.8	NO
40	Broadway @ J Street	AM	13.6	B	15.7	B	2.1	NO
		PM	18.6	B	29.6	C	11.0	NO
41	Broadway @ K Street	AM	11.7	B	14.5	B	2.8	NO
		PM	13.2	B	16.4	B	3.2	NO
42	Broadway @ L Street	AM	15.5	B	17.5	B	2.0	NO
		PM	20.4	C	34.7	C	14.3	NO
43	Fourth Avenue @ SR-54 WB Ramp	AM	14.7	B	23.1	C	8.4	NO
		PM	25.9	C	42.3	D	16.4	NO
44	Fourth Avenue @ SR-54 EB Ramp	AM	13.4	B	37.2	D	23.8	NO
		PM	27.2	C	95.2	F	68.0	YES
45	Fourth Avenue @ Brisbane Street	AM	21.5	C	25.8	C	4.3	NO
		PM	27.3	C	61.5	E	34.2	YES
46	Fourth Avenue @ C Street	AM	23.2	C	24.7	C	1.5	NO
		PM	31.4	C	40.0	D	8.6	NO
47	Fourth Avenue @ D Street	AM	9.1	A	13.5	B	4.4	NO
		PM	10.5	B	12.6	B	2.1	NO
48	Fourth Avenue @ I Street	AM	8.8	A	11.9	B	3.1	NO
		PM	10.1	B	18.0	B	7.9	NO
49	Fourth Avenue @ J Street	AM	9.3	A	12.0	B	2.7	NO
		PM	15.7	B	42.7	D	27.0	NO
50	Fourth Avenue @ K Street	AM	8.5	A	12.7	B	4.2	NO
		PM	10.1	B	20.0	B	9.9	NO
51	Fourth Avenue @ L Street	AM	24.6	C	27.6	C	3.0	NO
		PM	26.6	C	35.3	D	8.7	NO
52	Third Avenue @ Davidson Street	AM	9.9	A	14.7	B	4.8	NO
		PM	13.2	B	19.2	B	6.0	NO

TABLE 5.8-4
YEAR 2030 CONDITIONS
PEAK HOUR INTERSECTION LEVEL OF SERVICE SUMMARY
(continued)

	Intersection	Peak Hour	Existing Delay*	LOS†	Year 2030 Delay*	LOS†	Increase in Delay	Significant Impact?
53	Third Avenue @ I Street	AM	10.1	B	11.6	B	1.5	NO
		PM	12.2	B	18.3	B	6.1	NO
54	Third Avenue @ J Street	AM	18.8	B	22.9	C	4.1	NO
		PM	35.9	D	74.5	E	38.6	YES
55	Third Avenue @ K Street	AM	9.5	A	12.3	B	2.8	NO
		PM	11.0	B	22.4	C	11.4	NO
56	Third Avenue @ L Street	AM	18.1	B	22.9	C	4.8	NO
		PM	27.0	C	44.1	D	17.1	NO
57	Second Avenue @ D Street	AM	14.9	B	31.2	D	16.3	NO
		PM	14.9	B	36.0	E	21.1	YES
58	J Street @ I-5 SB Ramp	AM	8.9	A	17.5	B	8.6	NO
		PM	15.1	B	40.4	D	25.3	NO
59	J Street @ I-5 NB Ramp	AM	10.6	B	135.2	F	124.6	YES
		PM	8.2	A	61.7	E	53.5	YES
60	Woodlawn Avenue @ J Street	AM	11.0	B	16.3	C	5.3	NO
		PM	11.9	B	18.2	C	6.3	NO
61	L Street @ Bay Blvd	AM	16.8	C	22.7	C	5.9	NO
		PM	120.3	F	203.0	F	82.7	YES
62	L Street @ Industrial Blvd	AM	18.9	B	30.9	C	12.0	NO
		PM	25.4	C	52.6	D	27.2	NO
63	Bay Blvd @ I-5 SB Ramp	AM	22.2	C	84.0	F	61.8	YES
		PM	48.6	E	221.2	F	172.6	YES
64	Industrial Blvd @ I-5 NB Ramp	AM	15.4	C	26.0	D	10.6	NO
		PM	17.7	C	66.5	F	48.8	YES

Bold values indicate intersections operating at LOS E or F.

*Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

†LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0

TABLE 5.8-5
YEAR 2030 ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY

Segment	Street Classification*	Existing Daily Traffic Volume	Year 2030 Daily Traffic Volume	Acceptable Volume	Volume to Capacity (v/c)	Daily Segment LOS	Significant Impact
E Street							
I-5 - Woodlawn Avenue	4 Lanes Gateway Street	26,924	32,000	43,200	0.67†	B	NO
Woodlawn Avenue - Broadway	4 Lanes Gateway Street	21,997	32,000	43,200	0.67†	B	NO
Broadway - 1st Avenue	4 Lanes Urban Arterial	17,493	21,000	37,800	0.50†	A	NO
First Avenue - I-805	4 Lanes Gateway Street	17,966	24,000	43,200	0.50†	A	NO
F Street							
Bay Boulevard - Woodlawn Avenue	4 Lanes Downtown Promenade	5,336	19,000	33,750	0.51†	A	NO
Woodlawn Avenue - Broadway	4 Lanes Downtown Promenade	9,263	18,000	33,750	0.48†	A	NO
Broadway – Fourth Avenue	2 Lanes Downtown Promenade	8,574	11,000	14,400	0.69†	B	NO
Fourth Avenue – Third Avenue	4 Lanes Downtown Promenade	11,395	13,000	33,750	0.35†	A	NO
H Street							
I-5 – Broadway	4 Lanes Gateway Street‡	33,116	52,000	43,200	1.08†	F	YES
Broadway – Third Avenue	4 Lanes Urban Arterial	24,637	37,000	37,800	0.88†	A	NO
Third Avenue - Hilltop Drive	4 Lanes Urban Arterial	27,474	35,000	37,800	0.83†	A	NO
Hilltop Drive - I-805	4 Lanes Gateway Street‡	40,184	47,500	43,200	0.99†	E	YES
J Street							
Bay Boulevard - Broadway	4 Lanes Major Street	19,024	25,000	40,000	0.67†	B	NO
L Street							
I-5 - Broadway	4 Lanes Gateway Street	15,450	24,000	43,200	0.50†	A	NO
Broadway - Hilltop Drive	4 Lanes Class I Collector	16,430	20,000	22,000	0.73†	C	NO
Woodlawn Avenue							
E Street - F Street	2 Lanes Downtown Promenade	4,900	12,000	14,400	0.75†	C	NO
G Street - H Street	2 Lanes Downtown Promenade	2,600	9,000	14,400	0.56†	A	NO
Broadway							
SR-54 - C Street	4 Lanes Gateway Street	22,107	25,000	43,200	0.52†	A	NO
C Street - E Street	4 Lanes Commercial Boulevard	20,015	28,000	33,750	0.75†	C	NO
E Street - H Street	4 Lanes Commercial Boulevard	23,208	28,000	33,750	0.75†	C	NO
H Street - K Street	4 Lanes Commercial Boulevard	25,713	29,000	33,750	0.77†	C	NO
K Street - L Street	4 Lanes Commercial Boulevard	26,599	31,000	33,750	0.83†	D	NO
South of L Street	4 Lanes Major Street	27,053	29,000	40,000	0.77†	C	NO

TABLE 5.8-5
YEAR 2030 ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY
(continued)

Segment	Street Classification*	Existing Daily Traffic Volume	Year 2030 Daily Traffic Volume	Acceptable Volume	Volume to Capacity (v/c)	Daily Segment LOS	Significant Impact
Fourth Avenue							
SR-54 - C Street	6 Lanes Gateway Street	36,923	42,000	61,200	0.62†	B	NO
C Street – E Street	4 Lanes Urban Arterial	17,812	23,000	37,800	0.55†	A	NO
E Street – H Street	4 Lanes Urban Arterial	17,001	20,000	37,800	0.48†	A	NO
H Street – L Street	4 Lanes Urban Arterial	16,101	18,000	37,800	0.43†	A	NO
Third Avenue							
C Street – E Street	4 Lanes Commercial Boulevard	7,220	12,000	33,750	0.32†	A	NO
E Street - G Street	2/4 Lanes Downtown Promenade	14,413	21,000	14,400/33,750	0.56†	A	NO
G Street - H Street	4 Lanes Downtown Promenade	18,071	19,000	33,750	0.51†	A	NO
H Street - L Street	4 Lanes Commercial Boulevard	23,459	24,000	33,750	0.64†	B	NO
South of L Street	4 Lanes Class I Collector	21,814	22,000	22,000	0.80†	C	NO

*Street classification is based on the standards provided in the 2005 Chula Vista General Plan, but will be analyzed with existing number of lanes for each respective roadway segment.

†This roadway segment is part of the Urban Core Circulation Element.

‡This roadway segment is classified as a six-lane roadway, but is assumed to function as a four-lane roadway for this scenario.

- #45: Fourth Avenue at Brisbane Street (LOS E – PM Peak);
- #54: Third Avenue at J Street (LOS E – PM Peak);
- #57: Second Avenue at D Street (LOS E – PM Peak);
- #59: J Street at I-5 NB Ramp (LOS F – AM Peak, LOS E – PM Peak);
- #61: L Street at Bay Boulevard (LOS F – PM Peak);
- #63: Bay Boulevard at I-5 SB Ramp (LOS F – AM and PM Peak); and
- #64: Industrial Boulevard at I-5 NB Ramp (LOS F – PM Peak).

b. Daily Segment Analysis

Table 5.8-5 summarizes the segment operations. As seen in the table, all study area segments are calculated to operate at LOS D or better for the 2030 condition except the following, which are calculated to operate at LOS E or F.

- H Street from I-5 to Broadway (LOS F)
- Third Avenue from E Street to G Street (LOS F)

It should be noted that the roadway segment of H Street between Hilltop and I-805 was identified in the GPU EIR as LOS F under the existing condition (four-lane Arterial). The GPU amended the classification to the new Urban Core designation of “Gateway Street” and recommended the future configuration as a six-lane Gateway Street. Under the UCSP the classification of this segment was also assumed as a Gateway Street. Although the GPU EIR assumed the future condition as a six-lane Gateway Street and thus concluded an improvement to LOS C, the UCSP has assumed that the existing condition (four lanes) will be maintained due to significant right of way constraints. This segment of H Street is currently developed with many single-family homes and Hilltop High school all of which would not change over the 25-year planning horizon of the UCSP. Therefore, the future function of this segment is considered to be maintained as a four-lane Gateway Street and the UCSP TIA identifies a LOS E. This segment of H Street would be retained in its current condition.

In addition, although there are some segments which experience increases in daily traffic volumes, in no other cases besides the segments identified above will there be a more than two letter grade LOS change in service (i.e., from LOS A to LOS C), meaning that the roadways are of sufficient capacity to handle substantial increase in traffic volume without experiencing a significant drop in service level.

5.8.3.2 Transit Services

A number of future regional transit improvements are planned that will serve the Urban Core area. Many of these lines provide transit stations within the UCSP area and are integrated into the land use and transportation components of the specific plan. Other routes are located with transit stations nearby; these routes could serve the Urban Core area. Figure 5.8-6 shows the future transit routes listed below.

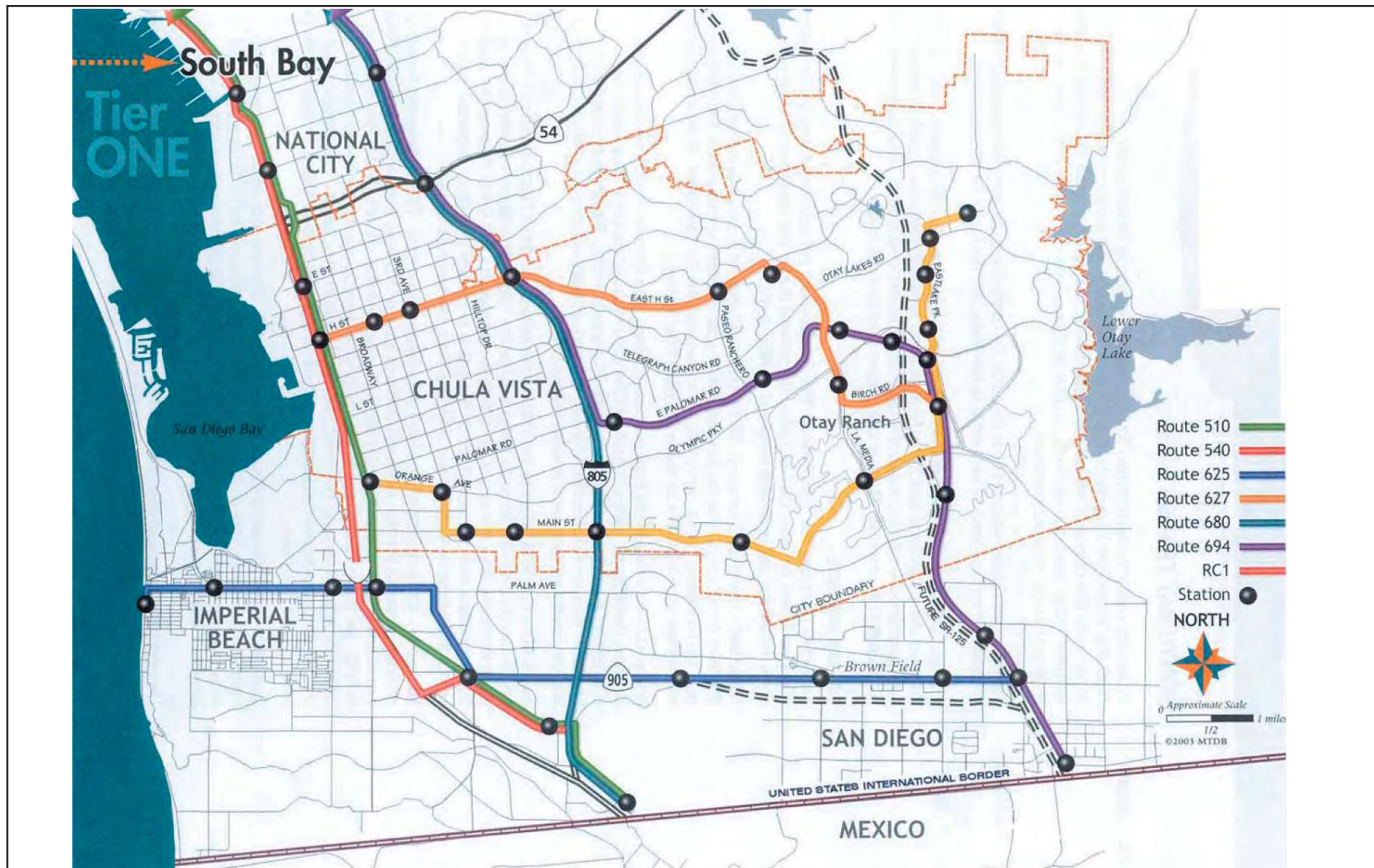


FIGURE 5.8-6
Regional Transit Routes

Route 510 (Existing Blue Line Trolley) would have increased frequency of service. Light rail transit (LRT) headways would be reduced from 10 minutes to 5 minutes. In order to achieve this level of transit service, it would be necessary to grade separate the LRT tracks from key surface streets, such as E Street and H Street within the project area.

South Bay Transit First Project would provide Regional BRT service between Otay Ranch in eastern Chula Vista and downtown San Diego. The first phase of the project would follow I-805 and SR-94, along with East Palomar Street. Phase 1 of the project could be completed by the Year 2010. The second phase of the project would extend the line to the Otay Border crossing and serve businesses in Otay Mesa.

Route 540 (I-5 Express Service) would provide Regional BRT service from San Ysidro to downtown San Diego and Old Town. This route would use median lanes in I-5 and would have a transit stop at H Street (with elevators to the H Street overcrossing at I-5). This route would have infrequent stations, which would allow for shorter travel times, as compared to Route 510.

Route 627 (H Street BRT) would provide a transit connection between the Chula Vista Urban Core Specific Plan area and Southwestern College and the Eastern Urban Center. This route will connect the major activity centers in the redeveloping areas of western Chula Vista to the rapidly growing areas of eastern Chula Vista.

Route 680 (Sorrento Valley to San Ysidro International Border) would provide Regional BRT service between the San Ysidro and Sorrento Mesa along the I-805 corridor. This service would connect Chula Vista to major employment centers in Kearny Mesa and Sorrento Mesa. Transit stations for this route would be located on I-805 at H Street.

These new and better transit connections are planned to more efficiently move people from trolleys to buses and throughout the Urban Core. While implementation of each the above referenced routes is not assured at this time, SANDAG has set aside \$80 million within the first 10 years of the RTP to fund project capital needs. The RTP will complete the area's transit network, and transform it into a robust system with more travel options dedicated to serving the unique travel needs of the Urban Core population.

SANDAG, in coordination with the Metropolitan Transit System, is responsible for allocation of regional funds to transportation projects, programs, and services based on established criteria. These criteria provide priority to implementing smart growth, the Regionally Significant Transportation Network, the Congestion Management Program, and performance monitoring efforts. Determining the transit alignments, identification of station locations, and selection of the appropriate technology, are required for the regional transit services as prioritized in the RTP.

Under buildout of the RTP, transit service headways would be significantly reduced adding additional vehicles to the Urban Core roadways. As a result, roadway segments will

experience minor increases in daily traffic volumes. However, in no case besides the segments identified in Table 5.8-5 above will there be a more than two letter grade LOS change in service (i.e. from LOS A to LOS C), meaning that the roadways are of sufficient capacity to handle a substantial increase in transit volume without experiencing a significant drop in service level.

5.8.3.3 West Side Shuttle Service

West Side Shuttle is a concept proposed to serve both the Urban Core Specific Plan and the Bayfront Master Plan areas in western Chula Vista. This service would complement existing and planned future transit improvements. The shuttle would provide localized service between various uses in western Chula Vista and provide connections to the regional transit system. Figure 5.8-7 depicts the proposed routing of the West Side Shuttle. The shuttle would provide local connectivity with stations serving Route 510 at the existing E Street station, Routes 510, 540 (future service), and 627 (future service) at the existing H Street trolley station, and the future station on H Street near Third Avenue serving future Route 627. In addition, five other stations are planned to serve destinations within the Urban Core Specific Plan, along with three additional stations within the Bayfront Master Plan.

Although MOBILITY 2030 has identified the need for neighborhood level services such as the West Side Shuttle, it has not prioritized funding to implement them. While a West Side Shuttle would compliment the existing local and regional transit system, it is primarily intended to serve the Urban Core Area. As such, it is not likely to be funded through regional sources and at present, an on-going operating revenue source has not been identified. Chula Vista Transit has identified vehicle resources to meet the demands for this route, and future development of the Bayfront may contribute some portion of operating expense.

Due to the longer term nature of implementing the West Side Shuttle, the actual level of ridership and concomitant reduction in automobile trips has not been quantified at this time nor reflected in the TIA prepared for the UCSP. West Side Shuttle service headways would need to be short (i.e., 5 to 10 minutes) in order to attract sufficient customers and will result in some additional vehicles on the Urban Core roadways. Roadway segments are expected to experience minor increases in daily traffic volumes as a result. However, in no case besides the segments identified in Table 5.8-5 above will there be a more than two letter grade LOS change in service (i.e. from LOS A to LOS C), meaning that the roadways are of sufficient capacity to handle a substantial increase in shuttle vehicle volumes without experiencing a significant drop in service level.

5.8.3.4 Other Mobility Enhancements

As discussed in Chapter V, Mobility, and in the urban amenities regulations and guidelines contained in Chapter VII-VIII of the UCSP, the hierarchy of emphasis in the plan is to accommodate pedestrians, bicyclists, public transit, and finally, the automobile. While some

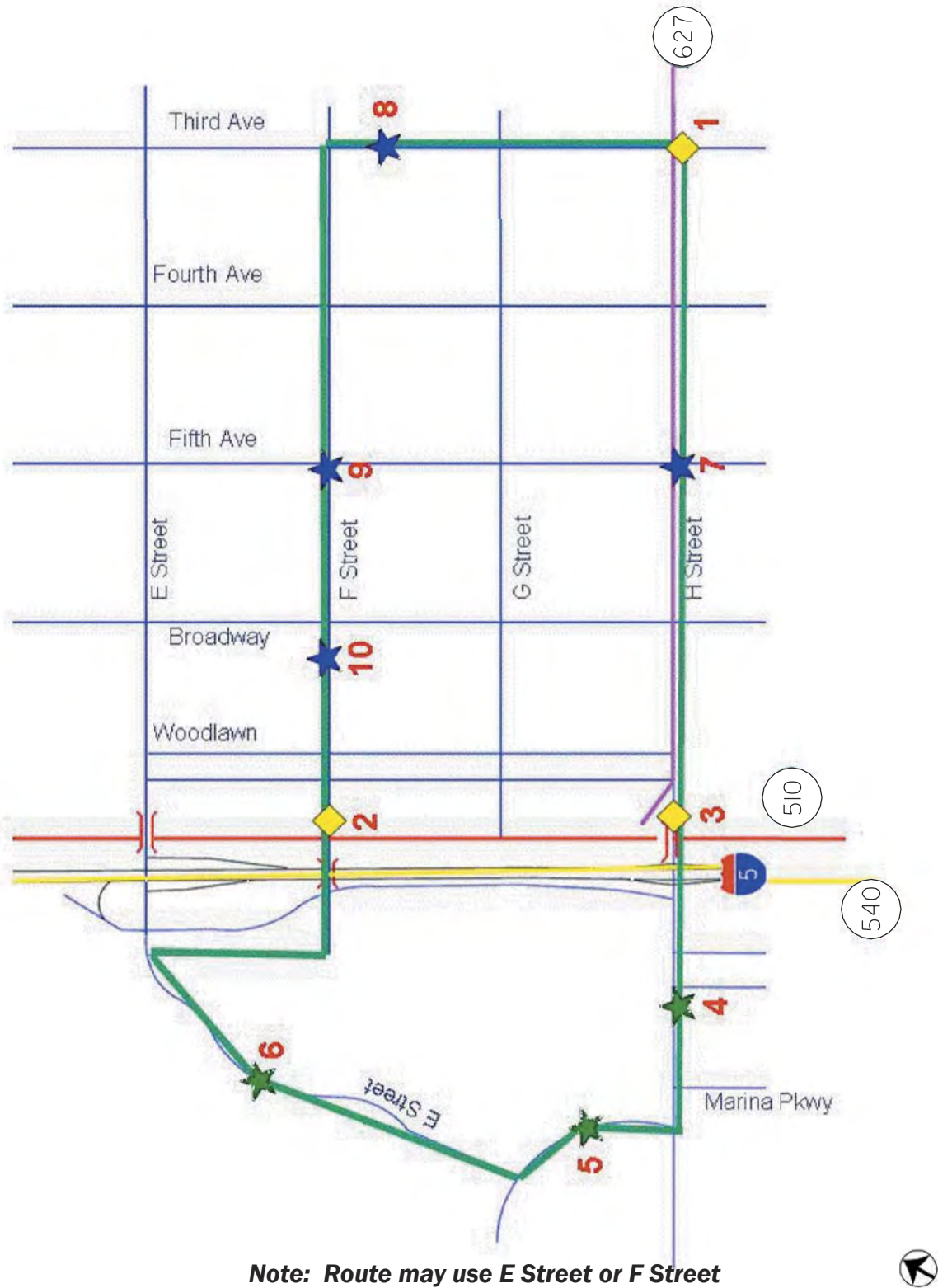


FIGURE 5.8-7
West Side Shuttle Proposed Route

intersection and street segment improvements may lower automotive LOS for the segments, they serve to increase alternate forms of mobility by introducing traffic calming elements, pedestrian improvements and paseos. The UCSP and City of Chula Vista Bikeway Master Plan address deficiencies in the bikeway network and makes recommendations for new and upgraded bikeway facilities throughout the area for both recreational and commuting users, as shown in Figure 5.8-8.

5.8.3.5 Parking

The UCSP allows for an intensification of development in the Urban Core which will create an increased demand for off-street parking. The Land Use and Development Regulations section of the UCSP identify parking requirements such as the minimum number of parking spaces required per land use and parking locations. Parking standards identified for residential, guest, and non-residential uses are as follows:

- Residential – 1.5 Parking Spaces per Dwelling Unit (1 Parking Space per Dwelling Unit in Transit Focus Areas ONLY)
- Guest (residential requirement only) - 1 Parking Space/10 dwelling units
- Non-Residential – 2 Parking Spaces per 1000 square feet.

As a result, implementation of the UCSP would result in the following additional required parking:

Total Parking Required

Use	Net Increase(sf)	Parking Requirement	Spaces Required
Multi-Family Residential (Dwelling Units)*	7,100	1.5/du	10,650
Residential Guest Parking**	7,100	1/10 du	710
Commercial Retail	1,000,000	2/1000 sf	2,000
Commercial Office	1,300,000	2/1000 sf	2,600
Commercial-Visitor Serving	1,300,000	2/1000 sf	2,600
		Total	18,560

*Table assumes residential parking requirement of 1.5 spaces per dwelling unit, however parking requirement for Transit Focus Areas is 1 space per dwelling unit.

**Calculated using projected number of residential dwelling units

While the majority of new uses will provide parking on-site, there are specific locations such as within the Village District and transit focus areas that allow some of the parking needs to be met off-site and/or through alternative means such as in lieu fees and shared parking arrangements. Shared parking arrangements must be assured in perpetuity and accessible via a public pedestrian path (e.g. sidewalk).

In addition, a number of other parking improvement strategies are proposed as part of the UCSP. These include:

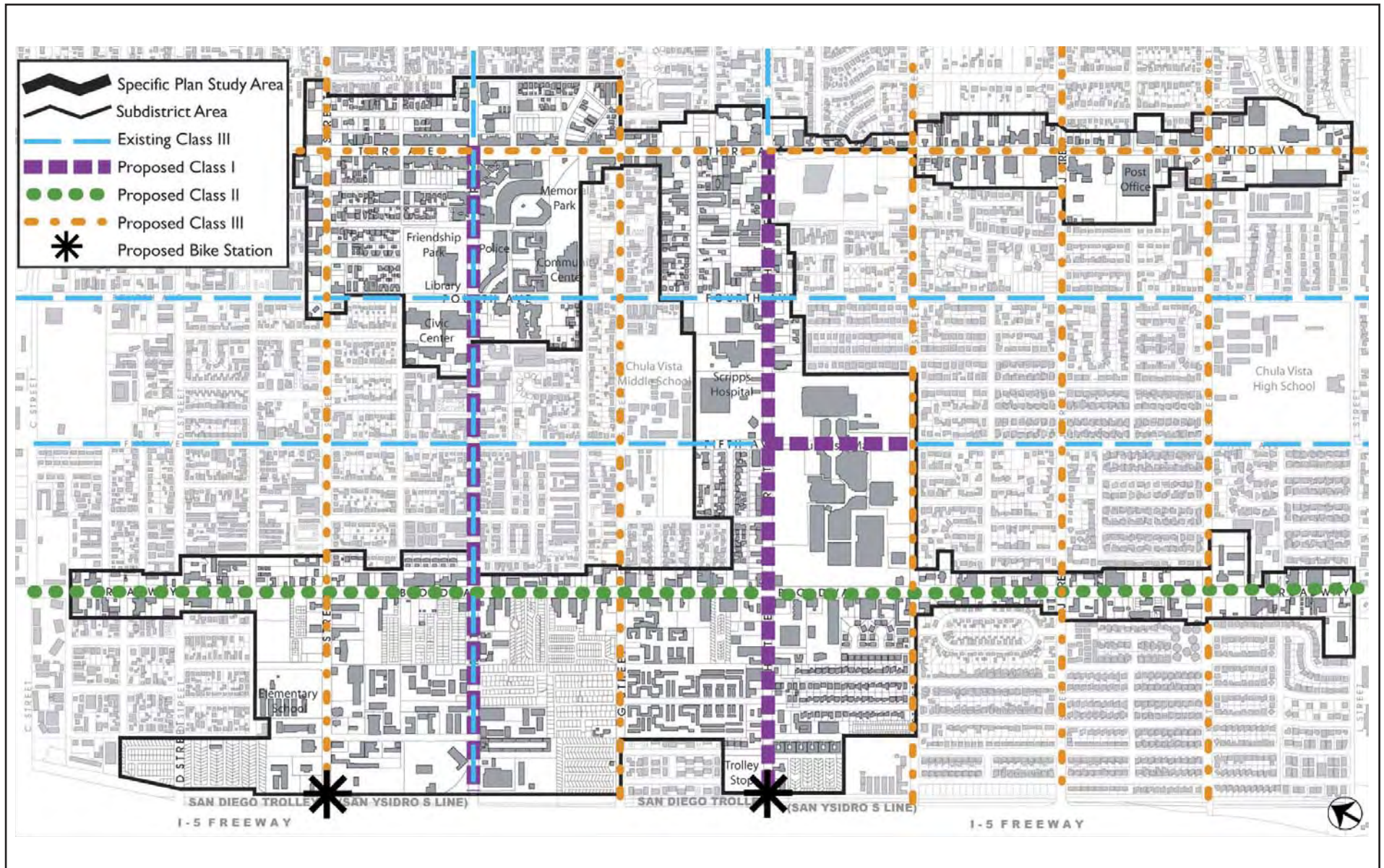


FIGURE 5.8-8
Existing and Proposed Bikeways

- **Parking Circulation** – Buffers will be created between pedestrians and traffic to induce feeling of safety by pedestrians and to help define crosswalk and outside seating areas.
- **Parking Districts** – Parking districts will be constructed to create more parking, promote efficient use of parking spaces, and to provide a means for allowing shared parking and remote off-site parking for a development site.
- **Parking Structures** – The specific plan recommends parking structures where feasible and in particular within the transit focus areas to encourage the intensification of mixed-use, commercial, office, and residential projects where parking can be provided on-site in a structured format.

5.8.3.6 Facilities Implementation Analysis

As part of the preparation of the UCSP, a Facilities Implementation Analysis (FIA) has been prepared to assess how the identified amenities and improvements, including the recommended cumulative traffic improvements identified below, compare to the anticipated funding sources available to implement the improvements. Available funding sources include existing development impact fees, projected tax increment, scheduled TransNet funding, the City's Capital Improvement Program and state and federal grants that will be pursued over the 20-25 year implementation of the UCSP. Existing development impact fees may be amended as necessary and additional development impacts fees may be proposed to contribute to the costs of recommended traffic improvements. Considering all of these available and potential funding sources, the FIA has determined that overall the level of improvements is sufficiently aligned with a variety of funding sources.

5.8.4 Summary of Significance Prior to Mitigation

Based on the peak hour intersection and segment analyses, the significance of project impacts was determined. Table 5.8-4 summarizes the significant intersection impacts, while Table 5.8-5 summarizes the significant street segment impacts. The traffic analysis reported that during 2030 condition, 19 intersections will operate at LOS E or worse during the peak periods and all but two roadway segments will function at an acceptable LOS.

Potential significant impacts to parking would be reduced to below significance by the incorporation of development regulations and design guidelines as part of the UCSP. All subsequent development projects must comply with the development regulations and design guidelines incorporated as part of the UCSP.

5.8.5 Mitigation Measures

The following mitigation measures shall be implemented to reduce the potential significant adverse impacts of the project on intersections and street segments in the project area:

Mitigation Measure

5.8.5-1 Intersection Improvements

The impacts to the intersections listed in 5.8.3.1(a) above will be mitigated to below significance by the implementation of improvements that have been divided into three tiers for phased implementation based on need and enhancement of the overall street network. Generally, time frames associated with the tiered improvements are anticipated as short-, mid- and long-term. In each tier, the City's existing TMP will determine the order in which projects are implemented during the biannual CIP program review. The Tier 1 improvements would be included in the current CIP and subsequently monitored for improvement within the first five years of implementation of the UCSP. It should be noted that three of the intersections (#7, #16, and #21) are proposed as project features rather than as needed to improve intersection LOS and most likely will be related to and timed with implementation of streetscape improvements along Third Avenue.

The intersection numbers in the improvements described below correspond to the intersection numbering system used in the TIA (Appendix C):

a. Tier 1 Improvements

- **#1 Bay Boulevard/I-5 Southbound Ramp/E Street:** Add an eastbound through and right-turn lane, southbound right-turn lane, and northbound right-turn lane. Coordination with Caltrans will be required for this improvement.
- **#2 I-5 Northbound Ramp/E Street:** Add a westbound right-turn lane. Coordination with Caltrans will be required for this improvement.
- **#7 Third Avenue/E Street:** Convert the northbound and southbound shared right-through lane into exclusive right-turn lanes.
- **#16 Third Avenue/F Street:** Separate the southbound shared through-right lane into an exclusive through and right-turn lanes, convert the northbound shared through-right lane into an exclusive right-turn lane.
- **#21 Third Avenue/G Street:** Convert the northbound/southbound shared through-right lane into exclusive right-turn lanes.
- **#24 I-5 Southbound Ramp/H Street:** Add a southbound left, eastbound through and right-turn lanes. Coordination with Caltrans will be required for this improvement.

- **#25 I-5 Northbound Ramp/H Street:** Add a westbound through and right-turn lane and restripe south approach to accommodate dual left-turn lanes. Coordination with Caltrans will be required for this improvement.
- **#26 Woodlawn Avenue/H Street:** Change Woodlawn Avenue to a one-way couplet. This improvement is required to serve the intense redevelopment occurring on both sides of H Street. The couplet improvement is not required mitigation further north toward E Street.
- **#27 Broadway/H Street:** Add an eastbound transit queue jumper lane and westbound through and right-turn lanes.
- **#28 Fifth Avenue/H Street:** Change the northbound/southbound approaches to include protective plus permissive phasing and add a westbound right-turn lane.
- **#29 Fourth Avenue/H Street:** Add an eastbound/westbound right-turn lane.
- **#44 Fourth Avenue/SR-54 Eastbound Ramp:** Add an eastbound right-turn lane. Coordination with Caltrans will be required for this improvement.

b. Tier 2 Improvements

- **#34 Broadway/SR-54 Westbound Ramp:** Add a westbound right-turn lane. Coordination with Caltrans will be required for this improvement.
- **#59 J Street/I-5 Northbound Ramp:** Add an eastbound left-turn and westbound right-turn lane. Coordination with Caltrans will be required for this improvement.
- **#61 L Street/Bay Boulevard:** Signalize the intersection, add a southbound left-turn lane, and a northbound right-turn overlap phase to the traffic signal.
- **#63 Bay Boulevard/I-5 Southbound Ramp:** Signalize the intersection. Coordination with Caltrans will be required for this improvement.
- **#64 Industrial Boulevard/I-5 Northbound Ramp:** Signalize the intersection. Coordination with Caltrans will be required for this improvement.
- H Street from four lanes to six lanes from I-5 to Broadway

c. Tier 3 Improvements

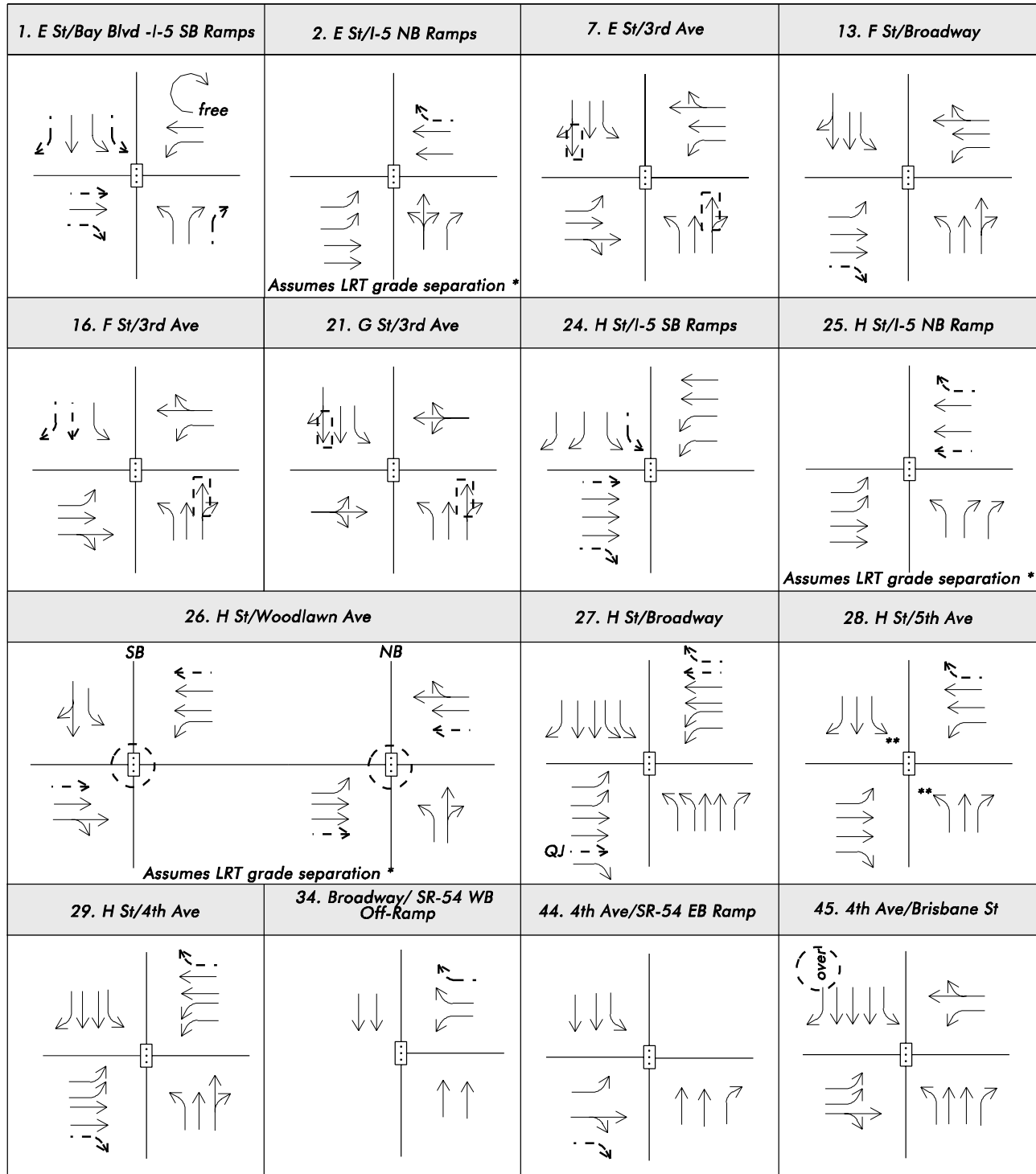
- **#13 Broadway/F Street:** Add an eastbound right-turn lane.
- **#45 Fourth Avenue/Brisbane Street:** Add a southbound right-turn overlap phase to the traffic signal.
- **#57 Second Avenue/D Street:** Convert to an all-way stop controlled intersection.

On an annual basis during build-out of the UCSP, the City shall apply the TMP to monitor actual performance of the street system in the Subdistricts Area by conducting roadway segment travel time studies in accordance with the City's Growth Management Program and Traffic Threshold Standards. The results of the annual study under the TMP will be used by the City to determine the timing and need for implementation of improvements to the nineteen intersections identified above as having potential significant impacts. The City shall implement the intersection improvements in phases based on the results of the annual TMP and on need and enhancement to the function of the overall street network. In addition to determining timing and need, this systems and operations monitoring approach should also be used to further ascertain final design details of the intersection improvements and may include consideration of the effects on traffic flow as well as the impacts/benefits to other travel modes (e.g., pedestrians and bicycles) that are foundational to the successful implementation of the Specific Plan.

The recommended improvements at the study intersections listed above are shown in Figures 5.8-9, 5.8-10, and 5.8-11 show the location of these intersections. It should be noted that the E Street and H Street intersections between the I-5 NB Ramp and Woodlawn Avenue assumes a Light Rail Transit (LRT) grade separation, which would separate vehicular traffic from the trolley. It is recommended that the trolley tracks be grade separated along E and H Streets to improve intersection operations and to accommodate the planned increase in trolley frequency. Implementation of this improvement will have to be coordinated with Caltrans and SANDAG and a combination of local, regional, state, and federal funding will be needed for the grade separation.

Table 5.8-6 displays the LOS analysis results for the study intersections that have assumed improvements under the Year 2030 With Improvements scenario. As shown in this table, all study intersections could operate at LOS D or better during both peak periods with the proposed improvements, except for the following intersections:

- #27 Broadway/H Street
- #33 Hilltop Drive/H Street
- #54 3rd Avenue/J Street



* The Light Rail Transit Crossings on E Street and H Street will have to be grade separated from the vehicular traffic along E Street and H Street.

** To improve this intersection the left turn phasing from the indicated movements will be changed to protective + permissive.

Legend:

Traffic Signal

Stop Sign

Existing lane

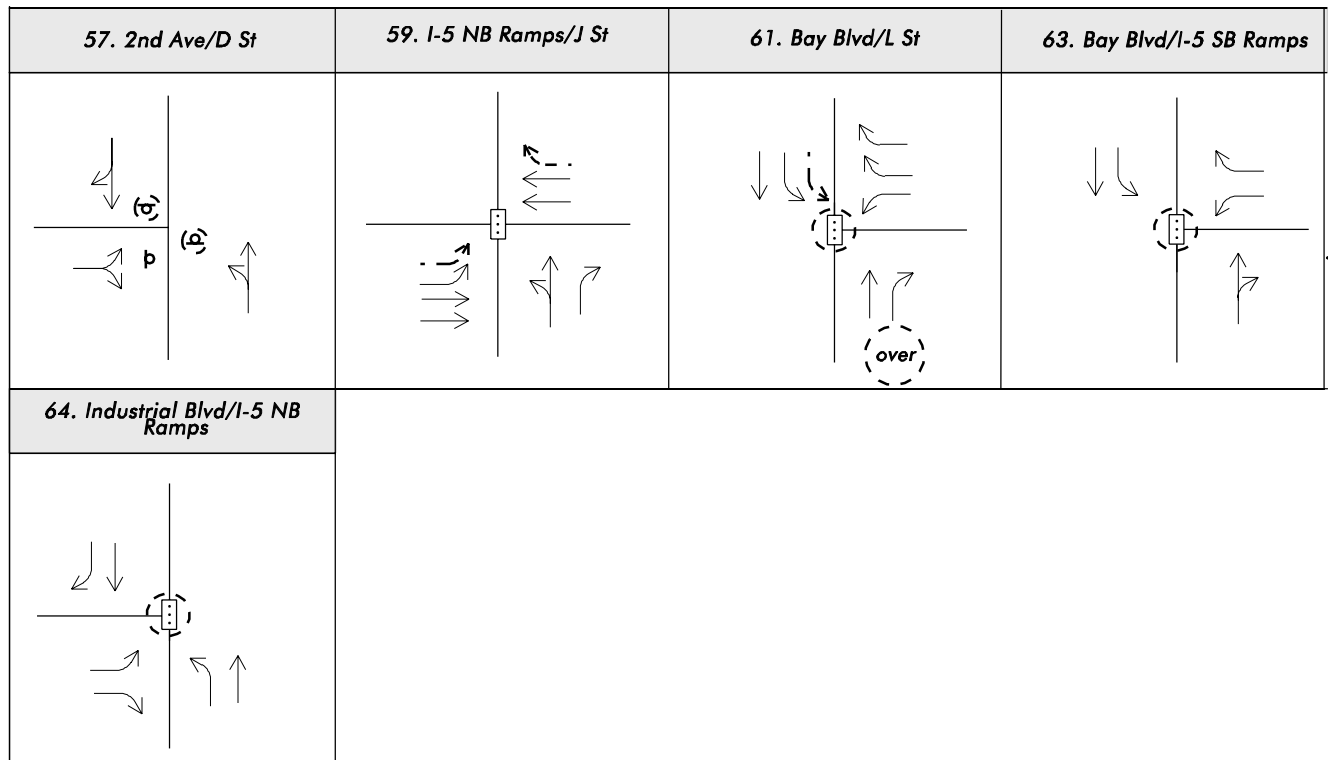
Proposed Improvement

Lane to be "altered"

New Overlap Phase

Queue Jumper

FIGURE 5.8-9
Year 2030 with Improvements
Intersections Geometrics



Legend:

- Traffic Signal
- New Traffic Signal
- Existing lane
- Proposed Improvement
- New Overlap Phase
- Lane to be "altered"
- New Stop Sign

FIGURE 5.8-10
Year 2030 with Improvements
Intersections Geometrics

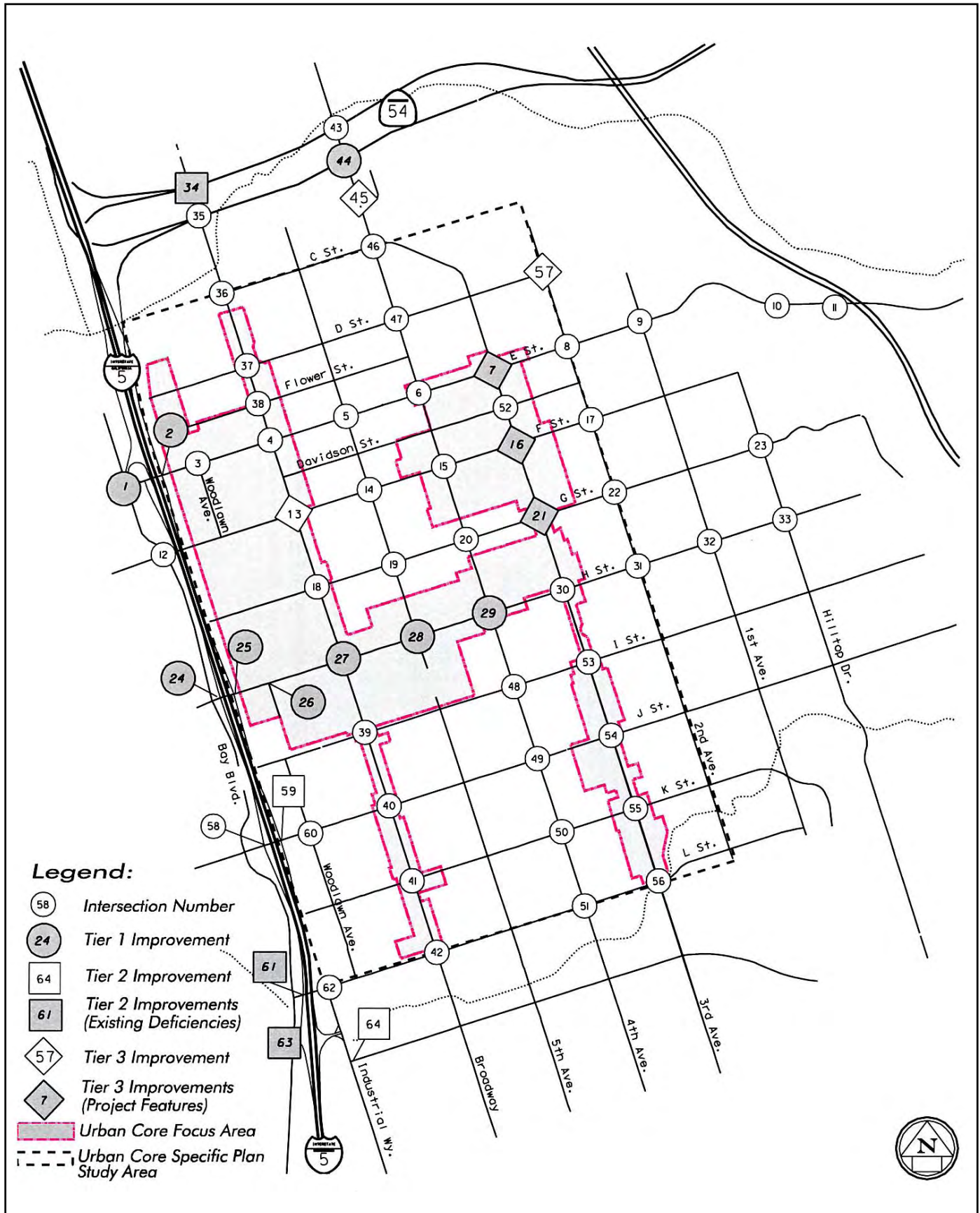


FIGURE 5.8-11
Project Features/Improvements
at Study Intersection

**TABLE 5.8-6
YEAR 2030 WITH MITIGATION CONDITIONS PEAK HOUR INTERSECTION LEVEL OF SERVICE SUMMARY**

	Intersection	Peak Hour	Before Improvements		After Improvements		Proposed Improvements ^c
			Delay ^a	LOS ^b	Delay ^a	LOS ^b	
1	Bay Blvd-I-5 SB Ramp @ E Street ^d	AM	58.4	E	25.5	C	Add EBT, EBR, SBL, SBR and NBR lanes.
		PM	302.9	F	37.2	D	
2	I-5 NB Ramp @ E Street ^d	AM	60.5	E	26.1	C	Add WBR lane.
		PM	31.9	C	20.6	C	
13	Broadway @ F Street ^d	AM	17.7	B	20.0	B	Add EBR lane.
		PM	66.1	E	39.7	D	
24	I-5 SB Ramp @ H Street ^d	AM	36.7	D	21.5	C	Add SBL, EBT, and EBR lanes.
		PM	84.5	F	27.1	C	
25	I-5 NB Ramp @ H Street ^d	AM	47.6	D	23.1	C	Add WBR, WBT, and restripe south approach to accommodate dual left turns.
		PM	138.4	F	31.7	C	
26	Woodlawn Ave @ H Street ^e	AM	33.7	C	32.2/13.3	C/B	Change Woodlawn Ave. to a one way couplet.
		PM	260.6	F	22.2/28.8	C/C	
27	Broadway @ H Street	AM	42.7	D	36.4	D	Add EBT Queue Jumper Lane, WBT and WBR lanes
		PM	118.1	F	77.0	E	
28	5th Ave @ H Street	AM	15.2	B	19.1	B	Change NB and SB approaches to protective + permissive phasing and add WBR lane.
		PM	61.6	E	52.0	D	
29	4th Ave @ H Street	AM	38.6	D	30.3	C	Add EBR and WBR lanes.
		PM	59.4	E	40.2	D	
33	Hilltop Dr @ H Street	AM	58.3	E	58.3	E	Do nothing due to ROW Constraints.
		PM	74.2	E	74.2	E	
34	Broadway @ SR-54 WB Ramp ^d	AM	190.6	F	45.2	D	Add WBR lane
		PM	16.2	B	14.8	B	
44	4th Ave @ SR-54 EB Ramp ^d	AM	37.2	D	22.6	C	Add EBR lane.
		PM	95.2	F	25.2	C	
45	4th Ave @ Brisbane Street ^d	AM	25.8	C	24.2	C	Add SBR overlap phase.
		PM	61.5	E	50.1	D	
54	3rd Ave @ J Street	AM	22.9	C	22.9	C	Do Nothing due to impacts on Henry's Building.
		PM	74.5	E	74.5	E	
57	2nd Ave @ D Street	AM	31.2	D	27.0	D	Convert to an all-way stop control intersection.
		PM	36.0	E	18.6	C	
59	J St @ I-5 NB Ramp ^d	AM	135.2	F	28.3	C	Add EBL and WBR lanes.
		PM	61.7	E	24.1	C	
61	L St @ Bay Blvd. ^d	AM	22.7	C	18.1	B	Add SBL lane, signalize intersection, and add NBR overlap phasing.
		PM	203.0	F	17.1	B	
63	Bay Blvd @ I-5 SB Ramp ^d	AM	84.0	F	17.7	B	Signalize intersection.
		PM	221.2	F	46.9	D	
64	Industrial Blvd @ I-5 NB Ramp ^d	AM	26.0	D	12.6	B	Signalize intersection.
		PM	66.5	F	20.8	C	

Bold values indicate intersections operating at LOS E or F.

ECL= Exceeds calculable limit . At intersections at or over capacity, the calculated delay value becomes unreliable.

EBL = eastbound left-turn lane; EBT = eastbound through lane; EBR = eastbound right-turn lane; NBL = northbound left-turn lane; NBT = northbound through lane; NBR = northbound right-turn lane; WBL = westbound left-turn lane; WBT = westbound through lane; WBR = westbound right-turn lane; SBL = southbound left-turn lane; SBT = southbound through lane; SBR = southbound right-turn lane.

^aDelay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

^bLOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0.

^cSee figures 6-21 to 6-21.1 for the proposed improvements at the study intersections.

^dCoordination with Caltrans will be required for the proposed improvement at this intersection.

^eThe Woodlawn Avenue couplet creates two new intersections. The first number/letter corresponds to the delay/LOS at the west intersection and the second number/letter corresponds to the delay/LOS at the east intersection.

Mitigation Measure

5.8.5-2 Segment Improvements. During build-out of the UCSP, the City shall apply the Traffic Monitoring Program (TMP) to monitor actual performance of the street system in the Subdistricts Area by conducting roadway segment travel time studies in accordance with the City's Growth Management Program and Traffic Threshold Standards. The results of the annual study under the TMP will be used by the City to determine the timing and need for implementation of improvements to the street segments identified as having potential significant impacts. The City shall implement the following street segment improvements: (1) based on the results of the annual TMP; or (2) based on need and enhancement to the function of the overall street network; and (3) in a manner that efficiently implements with phasing of necessary adjacent intersection improvements.

- 1) H Street between I-5 and Broadway would be reclassified as a six-lane gateway. As a result, the acceptable ADT would increase and result in an acceptable LOS.
- 2) Third Avenue between E Street and G Street would be constructed as a two-lane downtown promenade to facilitate an enhanced pedestrian environment along the traditional commercial village. As a result, the acceptable ADT along the segment would decrease and result in an unacceptable LOS. As such, impacts to Third Avenue will be significant and unavoidable. However, as identified in Table 5.8-4, the Third Avenue corridor intersections at E, F, and G Streets would all operate at an acceptable LOS.

Table 5.8-7 summarizes the Year 2030 With Improvement Conditions LOS analysis for the roadway segments with assumed improvements located in the Urban Core. With regard to traffic impacts, intersection operations are a better indicator of actual traffic flow. The planned improvement to Third Avenue has overriding benefits towards meeting the project objectives of creating a more pedestrian friendly and active streetscape that accommodates multi- modes of transportation rather than just accommodating the automobile. Although the turning volumes from Third Avenue are not very high, turning lanes are proposed to remove turning traffic from the through traffic. Turning vehicles would yield to anticipated high pedestrian traffic volumes and the turn lanes allow these yielding vehicles to pull out of the through travel lanes and allow a right-turn lane and a left turn lane to be provided. The intersection configuration would adequately accommodate future traffic demands along Third Avenue while providing a significantly enhanced pedestrian friendly streetscape.

**TABLE 5.8-7
YEAR 2030 WITH MITIGATION CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE SUMMARY**

Street/Segment	Daily Traffic Volume	Before Improvements Street Classification*	Acceptable Volume	Daily Segment LOS	After improvements Street Classification (b)	Acceptable Volume	Daily Segment LOS
H Street							
I-5 - Broadway	52,000	4 Lanes Gateway Street	43,200	F	6 Lanes Gateway Street	68,000	D
Third Avenue		2/4 Lanes Downtown			2 Lanes Downtown		
E Street - G Street	21,000	Promenade	14,400/33,750	A	Promenade	14,400	F

*Street classification is based on the standards provided in the 2005 Chula Vista General Plan.

†This roadway segment is part of the Urban Core Circulation Element.

Mitigation Measure

5.8.5-3 Prior to issuance of an Urban Core Development Permit, subsequent development projects shall prepare a traffic assessment to quantify the projects' potential traffic impacts. Subsequent projects will be required to contribute their fair share to the Tiered Improvements listed above under Mitigation 5.8.5.1. Mitigation may be in the form of:

- 3) Payment of Transportation Development Impact Fee (TDIF), as may be established in the future for the western portion of the City;
- 4) Payment of existing Traffic Impact Signal Fee;
- 5) Construction of improvements within the project boundaries; and/or
- 6) Early advancement of improvements beyond the project boundaries, subject to a reimbursement agreement.

The City's TDIF program for the west side of the City, including the Urban Core is anticipated to be developed within the subsequent twelve months following adoption of the UCSP. The TDIF will clearly establish the costs of the improvements identified above as well as the fair share costs to be applied to all subsequent development projects. Once the TDIF has been established, the fee will be consistently applied to all subsequent development projects, until such time that the TDIF is amended or rescinded. In the interim, if subsequent development projects are processed and approved prior to the establishment of a TDIF, a condition of approval will be included that prior to issuance of building permits the project will contribute to the TDIF, as may be established.

Mitigation Measure

5.8.5-4 Prior to issuance of an Urban Core Development Permit for subsequent development projects, the traffic assessment prepared to quantify the projects' potential traffic impacts will also identify how alternative modes of transportation will be accommodated. Mitigation may be in the form of:

- 1) Compliance with the development regulations and design guidelines of the UCSP to accommodate pedestrians, bicyclists and public transit; and
- 2) Where applicable, construction of improvements within the project boundaries; and/or
- 3) Early advancement of improvements beyond the project boundaries, subject to a reimbursement agreement.

Mitigation Measure

- 5.8.5-5 Prior to issuance of an Urban Core Development Permit, subsequent development projects shall comply with the parking standards set forth in the UCSP development regulations and design guidelines for the type and intensity of development proposed.

5.8.6 Summary of Significance After Mitigation

The potential significant impacts to intersections will be mitigated to below significance by implementation of the improvements recommended in Mitigation Measure 5.8.5-1 and shown in Table 5.8-6, with the exception of #27 Broadway/H Street, #33 Hilltop Drive/H Street and #54 Third Avenue/J Street.

The potential significant impacts to street segments will be mitigated to below significance by implementation of the improvements recommended in Mitigation Measure 5.8.5-2 and shown in Table 5.8-7, with the exception of Third Avenue between E and G Streets. The significant and unavoidable impact to this street segment result from the design of the project, which is intended to reduce Third Avenue to a two-lane downtown promenade to facilitate an enhanced pedestrian environment along the traditional commercial village. Although the planned improvements would result in an unacceptable LOS, they would meet the project objectives of creating a more pedestrian friendly and active streetscape that will accommodate multi-modes of transportation rather than accommodating only the automobile.

Development of alternative modes of transportation to accommodate pedestrians, bicyclists, and public transit, as planned for by the UCSP, will increase alternate forms of mobility by introducing traffic calming elements, pedestrian improvements and paseos. In addition, the reintroduction of the street grid, West Side Shuttle and future regional transit improvements that are planned to serve the Urban Core will serve to offset traffic impacts related to automobile use within the UCSP.

Tables 5.8-6 and 5.8-7 identify the recommended improvements to achieve acceptable levels of service at the majority of impacted intersections and roadway segments over the long-term cumulative buildout of the UCSP. While existing TransNet funding is expected to cover some of the costs of roadway and transit improvements and existing traffic signal fees currently collected as new development occurs would be applied, as appropriate, to identified signal-phasing improvements, the FIA has identified proposed development fees that may be needed to fund some of the recommended traffic improvements. In addition, some of the improvements will require right of way dedications either as part of the development process or concurrent with capital improvements, and/or coordination with Caltrans.

Due to the long-term nature of some of the improvements, the fee program and coordination have either not been implemented or begun, respectively, whereas the right of way exactions would occur with redevelopment. While these improvements are intended to be implemented when necessary and within the Tiers noted above, their long-term implementation cannot be assured at this time. Identified significant impacts will be partially mitigated but due to the lack of funding assurances at this time, future coordination with Caltrans and SANDAG, and future right of way exactions, impacts are considered significant and unmitigated.

Potential significant impacts to parking would be reduced to below significance by the incorporation of development regulations and design guidelines as part of the UCSP. All subsequent development projects must comply with the development regulations and design guidelines incorporated as part of the UCSP. Parking improvements will either be made on-site (i.e. where required of subsequent development projects), or off-site (i.e. in coordination with the City's Parking District or in Lieu Fee program).

Recommendations at intersections 27, 33, and 54 do not improve conditions to an acceptable LOS due to ROW and design constraints. Figure 5.8-12 shows the locations of these intersections that would still remain at LOS E. The following describes the constraints at the three intersections:

- At the Broadway/H Street intersection (#27), an additional northbound and southbound through lane would be required in order to achieve an acceptable LOS D conditions. However, this improvement would require extensive widening of Broadway and H Street to allow for lane drops. Furthermore, this widening would create longer pedestrian crossings. As such, the recommended improvements of the eastbound queue jumper lane and the additional westbound through and right-turn lanes would improve the intersection from LOS F to LOS E conditions.
- At the Hilltop Drive/H Street intersection (#33), no improvements would be recommended due to ROW constraints. The poor LOS at this intersection is primarily caused by the high traffic volumes in the eastbound/westbound movements. Additional through and/or turn lanes would be required in order to improve this intersection to an acceptable LOS. With no improvements, this intersection would remain at LOS E during both peak periods.
- At the Third Avenue/J Street intersection (#54), the required improvement of an additional southbound right-turn lane would impact the existing commercial building (Henry's Marketplace), which is built adjacent to the sidewalk. Therefore, this improvement is not recommended. As a result, the LOS would remain at LOS E. However, if the property were to redevelop in the future, additional ROW could be obtained for the southbound right-turn lane.



FIGURE 5.8-12
Study Intersections Remaining LOS E